



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

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COMMONWEALTH OF VIRGINIA Department of Environmental Quality Northern Virginia Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Covanta Fairfax, Inc.
9898 Furnace Road
Lorton, Virginia 22079

Permit No. NRO71920

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Covanta Energy, Inc. has applied for a renewal of the Title V Operating Permit for its Covanta Fairfax facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:

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Date:

6/7/2016

Air Permit Manager:

James B. LaFratta

James B. LaFratta

Date:

6/8/2016

Regional Director:

Thomas A. Faha

Thomas A. Faha

Date:

6/10/16

FACILITY INFORMATION

Permittee

Covanta Fairfax, Inc.
445 South Street
Morristown, NJ. 07960

Facility

Covanta Fairfax, Inc.
9898 Furnace Road
Lorton, Virginia 22079

County-Plant Identification Number: 51-059-00560

SOURCE DESCRIPTION

NAICS Code: NAICS 562213 – Municipal Waste Combustion

Covanta Fairfax, Inc. operates a large municipal solid waste (MSW) combustion facility with energy recovery. The facility maintains four 750 ton per day (nominal) waste combustion units with integrated reciprocating grate stokers and water wall boilers. Each combustor is also equipped with two natural gas-fired auxiliary burners that are used during startup, shutdown, and malfunction, and to provide flame stabilization. Products of combustion from each combustor are controlled by good combustion practices, ammonia injection (selective non-catalytic reduction), a combination of spray dryer and fabric filter, and activated carbon injection to reduce nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM and PM-10), acid gases (sulfur dioxide and hydrogen chloride), metals (cadmium, lead and mercury) and complex organics (dioxins/furans), among others. Steam generated by the boilers drive turbines that generate electricity for sale to the local electric company.

The facility is located in the Fairfax County, which is part of the Northern Virginia Ozone Nonattainment Area. The facility is a Title V major source of sulfur dioxide, nitrogen oxides (NO_x), carbon monoxide, hazardous air pollutants (hydrogen chloride), and CO₂ equivalent emissions. The facility has the potential to emit (PTE) more than 100 tons per year (tpy) of nitrogen oxides (NO_x) and is considered a major stationary source for purposes of non-attainment new source review (9 VAC 5-80-2000, et seq.). The facility operates under the Prevention of Significant Deterioration (PSD) Permit dated January 12, 1987, as amended February 18, 1988 (Appendix A) and a Consent Agreement dated April 3, 1998, implementing Reasonably Available Control Technology (RACT) can be found in Appendix B. The requirements of the RACT consent agreement have been fulfilled. The facility is also subject to state Rule 4-54 (9 VAC 5-40-7950 et seq.) of the Virginia Air Pollution Control Board's Regulations for the Control and Abatement

of Air Pollution. This rule implements various emissions limitations, operating, compliance, and recordkeeping requirements established by the Emissions Guidelines, Subpart Cb. Rule 4-54 is the approved Clean Air Act Section 111(d)/129 plan for Large Municipal Waste Combustor (MWC) Units regulated under 40 CFR 62, Subpart VV sections 62.11640 through 62.11642 and was approved on October 29, 2004.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was last conducted August 14, 2014. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
001-01 through 004-01	001 - 004	Ogden-Martin MSW Combustor with Martin-Stoker boiler system	343.75 MMBtu/hr	SNCR (ammonia injection), 2000	---	NO _x	PSD permit dated January 12, 1987 as amended February 18, 1988. NO _x RACT Consent Agreement dated April 3, 1998.
			Design maximum rated heat input (each unit)	Flakt spray dryer, 02/88	1,4,7, 10	SO ₂ and MWC acid gases	
				Flakt fabric filter baghouse, 02/88	3,6,9, 12	MWC metals, PM/PM-10	
				activated carbon injection system	---	Mercury	
001-02 A,B through 004-02 A,B	001 - 004	Zurn natural gas fired auxiliary burners (02/88)	103.125 MMBtu/hr (each unit) Design maximum rated heat input	same	same	Same	same
005	N/A	Cold Solvent Degreasers	N/A	N/A	---	---	---
IU-06		Ash Removal	NA	NA	NA	NA	NA
IU-10		Emergency Diesel Generator	435 Horsepower	NA	NA	NA	NA

*The size/rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2015 annual emission statement is attached as Appendix C. Emissions are summarized in the following table.

2015 Actual Emissions

Criteria or Hazardous Air Pollutant	Tons per Year
CO	21.11
NO _x	1,647.88
PM-10	14.06
PM-2.5	0.13
SO ₂	121.62
VOC	6.06
Lead	0.04
Hydrogen Chloride	52.85
Hydrogen Fluoride	0.65

EMISSION UNIT APPLICABLE REQUIREMENTS – 001-01 through 004-02

There are two primary regulatory mechanisms that form the basis of the majority of applicable requirements in this permit. They are the PSD permit issued January 12, 1987 (amended February 18, 1988) and Virginia State Air Pollution Control Board Rule 4-54 – Emissions Standards for Large Municipal Waste Combustors.

Rule 4-54, was promulgated on August 4, 1999, to carry out EPA's mandate to regulate existing (construction commenced on or before September 20, 1994) large MWCs as defined by Emission Guideline, Subpart Cb. EPA took direct final action approving this rule on October 29, 2004 making it federally enforceable. Rule 4-54 establishes emission limits, and monitoring, operating and recordkeeping requirements that are either more stringent than or additional to the existing PSD permit. It includes concentration-based emission limits for several criteria and hazardous air pollutants, establishes operating parameter limits on steam production, fabric filter inlet temperature and mercury injection system activated carbon feed. It also requires continuous and periodic compliance demonstration mechanisms including continuous emissions monitoring, operating parameter monitoring, performance testing, and record keeping and reporting.

Title V permit conditions reflect the more stringent requirements, the additional requirements and attempts to merge similar Rule 4-54, and PSD permit limits through the streamlining process. The citation(s) of each condition reflect the underlying requirements as appropriate.

Limitations

Control equipment requirements were obtained from the PSD permit and presented in Conditions 1, 2, 3.

MSW and natural gas are the only fuels permitted to be combusted at this facility. DEQ has interpreted the PSD permit, its supporting documents and considered practical implications to develop a definition of acceptable MSW, as provided in Condition 4. When developing this Condition, DEQ made use of the language found in the definition of MSW contained in Rule 4-54. The operating permit definition identifies materials that are reasonably considered by DEQ to be MSW. The definition also identifies waste streams DEQ believes are not MSW and were not evaluated for their emissions characteristics when the decision to issue the original PSD permit was made. These materials are not currently considered acceptable wastes that can be processed by the facility and have therefore been excluded from the definition of MSW. DEQ does however acknowledge the practical implications of excluding from the definition of MSW materials that are collected from businesses in the region that fall within the excluded category. Therefore, the operating permit leaves room for the permittee to consider expanding the definition, provided certain steps are followed. Those steps are described in Condition 4. Rules applicable to operating permit changes will be followed as provided in 9 VAC 5-80-190.

DEQ has interpreted the PSD, its supporting documents and considered practical implications to establish an effective MWC unit charging rate and the annual tonnage limit as shown in Conditions 6 and 7. DEQ recognizes the PSD permit's intent to acknowledge the importance of the variable energy content (higher heating value (HHV)) and/or moisture content of the waste stream relevant to the charging rate and tonnage limit. The PSD permit unfortunately does not clearly define an approach to make this connection. In the absence of an approach, DEQ has established effective limits based on a moisture correction of 18% by weight (e.g., $750 \text{ tpd} \times 1.18 = \text{effective charging rate of } 885 \text{ tons}$, and $1,095,000 \text{ tpy} \times 1.18 = \text{effective annual tonnage limit of } 1,292,100 \text{ tons}$). This moisture content was obtained from the Camp, Dresser and McKie document supporting the original PSD permit application. Conditions 7 and 8 provides instructions to follow if the permittee chooses to obtain approval for alternative moisture corrections. Appendix A has been reserved to accommodate alternative values or approaches that are approved and do not trigger significant Title V modification.

Condition 21 establishes a compliance demonstration approach to Condition 6 and 7 utilizing waste measured on truck scales, as DEQ believes is implied by the PSD permit. DEQ however recognizes the value of using steam and other factors to reflect actual waste processed and have, in this condition, provided an avenue for the permittee to pursue establishing such an approach. Appendix B is reserved to accommodate approved approaches that do not trigger significant Title V modification.

Condition 12, Proper Operation and Good Combustion Practices (GCP), is essentially a control requirement for NO_x, CO and VOC, and complex organics (specifically dioxin/furans), that blends the intent of PSD permit Condition 10 and 16 to control these emissions by good furnace design and proper operation, with Rule 4-54 requirements that serve the same purpose. This is not intended to define or emulate the methods to demonstrate GCP as prescribed by EPA in the background documents associated with the Emission Guidelines/NSPS for large MWCs. Specific GCP terms for this permit are defined quantitatively by achieving the operating parameter and emissions requirements indicated in the condition. Boiler roof top temperature above 1135 °F is authorized as a surrogate to furnace combustion temperature as referenced in the DEQ letter to Covanta identified as 93-03, dated October 1, 1993. A 4-hour block averaging period has been added to the furnace temperature requirement to coincide with the averaging periods applicable to parameters that are closely associated with or reflective of furnace conditions (e.g., CO emissions and unit load). The furnace temperature requirement does not apply when only auxiliary fuel is being fired or during periods of start-up and shutdown and malfunction.

The following Virginia Administrative Codes (VAC) that have specific emission requirements have been determined to be applicable:

Concentration based emission limits were obtained from Rule 4-54 and are provided in Condition 13.

Mass emission limits provided in PSD permit Conditions 6 and 7 are reflected in Conditions 15 and 16, with the exception of arsenic, antimony, beryllium and hydrogen bromide. These four hazardous air pollutants were established as limits in the PSD permit under the state toxics program that is not federally enforceable. As a result, the limits for these four pollutants and their attendant monitoring, recordkeeping and reporting requirements have been moved to the State-only Requirements section of the operating permit.

Sulfuric acid and hydrogen fluoride limits are retained in Condition 16 because the facility is a major PSD source and significance levels exist for these pollutants, under the PSD pre-construction review permit program.

The visible emission limit in Condition 17 reflects the more stringent Rule 4-54 limit versus PSD Condition 20. The fugitive emission limit in Condition 18 reflects Rule 4-54 at 9 VAC 5-80-8070.

Requirements limiting municipal waste combustor unit load, fabric filter inlet temperature, activated carbon feed and duration of start-up/shutdowns obtained from Rule 4-54 are also provided in this 'Limitations' section.

Parametric Monitoring

The monitoring requirements provided in this section (Conditions 20 – 28) mirror those obtained from the PSD permit or Rule 4-54. Some requirements contained in the PSD permit have been streamlined by the more relevant or more stringent requirements of Rule 4-54 and are not included.

Continuous Emissions Monitoring

The continuous emissions monitoring (CEM) requirements provided in this section (Conditions 30 – 57) mirror those obtained from the PSD permit or Rule 4-54.

A provision to Conditions 41, 48, and 55 was added to require DEQ and Environmental Protection Agency (EPA) Region III approval of any alternative system used to provide substitute CEM emissions data during periods of CEM system breakdown, repair, calibration checks and zero and span adjustments. EPA must approve the use of any alternative monitoring system used for the purpose of demonstrating compliance. See the August 18, 2003 state plan (111(d)112 plan) submittal, Part 1-5, Discretionary Authority, relating to major changes to monitoring requirements.

Compliance Assurance Monitoring

An analysis was performed to determine the applicability of Compliance Assurance Monitoring (CAM), 40 CFR Part 64, to the MWCs. 40 CFR §64.2(b) provides an exemption from CAM requirements for "emission limitations or standards proposed by the Administrator after November 15, 1990, pursuant to Section 111 or 112 of the Act". Municipal waste combustors are subject to the performance standards provided in 40 CFR 60 Subpart Cb (as incorporated into SAPCB Regulations Rule 4-54) which were promulgated post November 15, 1990. The monitoring standards associated with these rules are consistent with the requirements of the CAM program.

Recordkeeping

The recordkeeping requirements provided in this section (Conditions 58 – 66) mirror those obtained from the PSD permit or Rule 4-54.

Performance Testing

Annual performance test requirements provided in this section (Conditions 67 – 80) mirror those obtained from the PSD permit and Rule 4-54. These tests, at a minimum, along with other monitoring requirements in this permit as derived from Rule 4-54, serve to satisfy periodic monitoring for all regulated pollutants.

No annual performance test requirements are provided for VOC, the only regulated pollutant for which an annual performance test or continuous emissions monitoring is not required. Other conditions, such as Condition 2, serve to periodically ensure that VOC emissions are maintained at levels consistent with the results of the initial performance test conducted following issuance of the original PSD permit.

A table of test methods has been included in the permit in the event testing is performed for pollutants for which no annual performance test is required. The Department of Environmental Quality (DEQ) and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The reporting requirements provided in this section (Conditions 81 – 67) mirror those obtained from the PSD permit or Rule 4-54. Submittal dates for the Emissions and Parametric Monitoring report (Condition 81) and Compliance/Deviation report (Condition 82) in this section have been tied to the submittal dates of the semi-annual monitoring reports required in Condition 122, the annual compliance certification required in Condition 123 and permit deviation report required in Condition 124 for simplicity. The permittee may combine these reports as appropriate and as approved by the Air Compliance Manager in advance for the purpose of minimizing excess/separate reporting.

Streamlined Requirements

Many requirements of the original PSD permit are no longer valid because they have been fulfilled, are less stringent, less appropriate than a requirement provided by Rule

4-54, are redundant or overlap with Rule 4-54. For these reasons, many conditions of the PSD permit are not directly incorporated or do not appear at all in the Title V permit. Those conditions that have been streamlined are indicated below with a brief description of the streamlining activity.

PSD permit Part I, Condition 1 – Not an applicable requirement.

Condition 2 – Permit application and supporting documents not applicable requirements.

Condition 3 – Operating manual requirements have been fulfilled and are also addressed by Rule 4-54 at 9 VAC 5-40-8130 F. (Condition 96 of Title V permit) requiring development and update of facility operating manual.

Condition 5 – The daily limit of 3,000 tons is redundant/less stringent to the individual MWC charging rate of 750 tpd and therefore was not included.

Condition 6 and 7 –The Title V permit reflects only the more stringent (based on Rule 4-54) lb/hr and tpy limits than the limits in the PSD permit.

Condition 10 – The emission standards and/or reduction efficiency requirements for SO₂, HCl, and HF provided by Rule 4-54 at 9 VAC 5-40-7960 C, -8020, and -8030 are at least as stringent as this condition.

Condition 14 – Initial performance test reporting has been fulfilled.

Condition 16 - These requirements have been incorporated into Condition 12 as "Proper Operation and Good Combustion Practices."

Condition 17 – Ambient air quality monitoring has been completed. No additional monitoring was required. Requirement is obsolete.

Condition 19 – Process residue analysis was intended as a tool to evaluate the effectiveness of the combustion process to maximize complete combustion of the MSW at appropriate temperature. This in turn reduces the formation of gaseous pollutants, specifically complex organics. Rule 4-54 requirements such as minimum gaseous pollutant reduction efficiencies, unit load requirements and inlet fabric filter temperature requirements serve to minimize the necessity to continue process residue analysis. Therefore, process residue requirements have been streamlined out of the Title V permit.

Condition 20 – Rule 4-54 (9 VAC 5-40-8060) and PSD permit Condition 20 contain

similar visible emission limits of 10 percent opacity. Condition 20 allows a 6-minute period of up to 30 percent opacity whereas 8060 does not. Therefore the Rule 4-54 limit is more stringent and is reflected in the permit.

Condition 21 – Provided as a State only requirement.

Condition 22 – Definition of MSW as provided in Condition 4 excludes hazardous waste. Requirement to monitor waste stream for non-MSW is incorporated into Condition 4.

Condition 23 – Standby Emission Reduction Plan has been submitted. Requirement is obsolete.

Part II – With the exception of the Conditions 7, 8, 9, 13, and 15, all requirements in Part II of the PSD permit have been fulfilled, are obsolete or are general conditions not applicable to this Title V permit.

Condition 7 – 9 VAC 5-80-8160 (Condition 58) requires all records be maintained for 5 years instead of 2 years as required by the PSD permit.

Condition 8 and 9 - These requirements are incorporated into the Operating Training and Certification section, Conditions 92, 96, 99 and 100.

Cold Solvent Degreasers

Conditions 87 through 91 under the facility wide conditions incorporates state rule 4-47, Emission Standards for Solvent Metal Cleaning Operations in Northern Virginia Volatile Organic Compound Emissions Control Area. The degreasers are not subject to National Emission Standards for Hazardous Air Pollutants Subpart T since Covanta Fairfax states that halogenated solvents (as provided in 40 CFR §63.460(a)) are not used in any of its parts washer. The facility operates two Safety- Kleen Model 250 parts washers that use the Safety- Kleen Premium Gold Solvent which uses light petroleum distillates.

Facility Wide Conditions

This section incorporates Rule 4-54 requirements and PSD permit conditions related to MWC and air pollution control equipment supervisor and operator requirements including training, certification and record keeping. Control room operator "stand-in" provisions have been added to Condition 90, utilizing language contained in the proposed revisions to the MWC Emissions Guidelines (40 CFR 75350, December 19,

2005), to reflect the John Seitz memo (May 14, 1998) on this topic.

Conditions 102-110 (Facility Wide Conditions Section) was added due to the 435 bhp emergency diesel engine generator set that was previously considered an insignificant unit, but is now subject to NSPS 40 CFR 63 Subpart ZZZZ. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. On May 1, 2016 the EPA vacated 40 CFR §63.6640(f)(2)(ii)-(iii) operations for demand response (emergency demand and non-emergency demand response) is not allowed for emergency engines under 40 CFR Part 63, Subpart ZZZZ.

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. If the unit does not meet the definition of emergency, then compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09"

Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9 VAC 5-50-410 or 9 VAC 5-40-41.

Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50 Applicability, Federal Operating Permit For Stationary Sources
9 VAC 5-80-190 Changes to Permits.
9 VAC 5-80-260 Enforcement.
9 VAC 5-80-1100 Applicability, Permits For New and Modified Stationary Sources
9 VAC 5-80-1790 Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000 Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

Malfunction as an Affirmative Defense

Four conditions (entitled "Malfunction as an Affirmative Defense") that had been part of the facility's current Title V Permit as well as the draft renewal version advertised for public comment and EPA review, have been removed. State regulations at 9 VAC 5-20-180 G have been revised (effective June 1, 2016) to remove allowance of affirmative defense for violations of emissions limits during startup, shutdown and malfunction, consistent with EPA's 6/12/2015 SIP Call (80 FR 33840).

Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70 Designated Emissions Standards

9 VAC 5-80-110 Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-50-310, Odorous Emissions

9 VAC 5-50-320, Toxic Pollutants

This section identifies all of the PSD permit requirements that are related to odor or toxic pollutant emissions control.

FUTURE APPLICABLE REQUIREMENTS

EPA originally adopted air emission standards for new and existing large municipal waste combustors (MWCs) in 1995. As required by section 129 of the Clean Air Act, EPA reviewed these standards and proposed revised standards. The proposal occurred on December 19, 2005, and final standards were published on May 10, 2006 (71 FR 27323). A number of individuals filed petitions on various aspects of the standards. Moreover, the Agency received a separate petition to reopen the section 129(a)(2) standards. EPA agreed to initiate such an action. Accordingly, EPA petitioned the court to remand the 2006 LMWC rule to EPA. The court issued the remand in February 2008.

This rule has been under reconsideration since 2007, and there have been no changes made as of June 10, 2015, to SABCB Rule 4-54 or to the Federal Plans provided in 40 CFR Part 62, Subpart FFF—FEDERAL PLAN REQUIREMENTS FOR LARGE MUNICIPAL WASTE COMBUSTORS CONSTRUCTED ON OR BEFORE SEPTEMBER 20, 1994.

INAPPLICABLE REQUIREMENTS

The Beryllium NESHAP (40 CFR Part 61) was found not to apply as documented in internal DEQ correspondence from Regional Engineer William Millward to Director, Source Evaluation, dated September 15, 1986.

Amendments to NSPS Subpart E (40 CFR Part 60)— Standards of Performance for Incinerators, promulgated on May 10, 2006, exempt from coverage under this subpart any facility, such as Covanta Fairfax, covered by an EPA approved State section 111(d)/129.

Amendments to NSPS Subpart Db (40 CFR Part 60) – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, promulgated on February 27, 2006, exempt from coverage under this subpart any facility, such as Covanta Fairfax, covered by an EPA approved State section 111(d)/129 implementing Subpart Cb.

40 CFR Part 63; MACT Subpart T National Emission Standards for Halogenated Solvent Cleaning – Covanta Fairfax does not use halogenated solvents in its parts washers, and therefore is not subject to this MACT.

Boiler MACT (40 CFR Part 63, Subpart DDDDD) – The MWC units meet the definition of 'Industrial Boilers' provided in 40 CFR §63.7575 and therefore meet the general applicability of 40 CFR §63.7485; however, 40 CFR §63.7491(l) excludes boilers specifically listed as an affected source in any standard(s) established under §129 of the Clean Air Act. The MWC units are subject to 9 VAC 5-40-7950 et seq. (a.k.a. Rule 4-54) which implements 40 CFR Part 60, Subpart Cb (Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors that are Constructed on or before September 20, 1994).

CSAPR (40 CFR Part 97, Subpart AAAAA – CCCCC) – Each of the MWC units combusts fossil fuel, which includes petroleum (as defined in 40 CFR §97.402); however, CSAPR doesn't apply to the MWC units because the MWC units qualify as a solid waste incineration unit with an average annual fuel consumption of fossil fuel of less than 20 percent (on a Btu basis) for any 3 consecutive calendar years.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
IU-1	Fuel Oil Storage Tank	9 VAC 9-80-720 B	VOC	N/A
IU-2	MSW Building/Pit	9 VAC 9-80-720 B	PM and PM-10	N/A
IU-3	Ferrous and Non-ferrous Ash Building	9 VAC 9-80-720 B	PM and PM-10	N/A
IU-4	Residue Ash Building	9 VAC 9-80-720 B	PM and PM-10	N/A
IU-5	Lime Slaker Room	9 VAC 9-80-720 B	PM and PM-10	N/A
IU-7	Grizzly Scalper	9 VAC 9-80-720 B	PM and PM-10	N/A
IU-8	Hydraulic Shredder (in MSW Bldg.)	9 VAC 9-80-720 B	PM and PM-10	N/A
IU-9	HVAC Boiler	9 VAC 9-80-720 C	PM and PM-10, SO ₂ , NO _x , CO and VOC	0.55 MMBtu/hr
IU – 11	Lime Storage Silo Vent	9 VAC 9-80-720 B	PM and PM-10	N/A
IU – 12	Dolomitic Lime Silo	9 VAC 9-80-720 B	PM and PM-10	N/A
IU – 13	Carbon Silo Vent	9 VAC 9-80-720 B	PM and PM-10	N/A

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

Per 9 VAC 5-80-270 B, a public notice regarding the draft renewal Title V permit was placed in the *Washington Times* newspaper on April 12, 2016, for the opportunity for public comment through May 13, 2016. All persons on the Title V mailing list were sent a copy of the public notice by either electronic mail or in letters on April 12, 2016. The affected state of Maryland and the District of Columbia were sent a copy of the public notice by electronic mail on April 12, 2016. In addition, DEQ provided a copy of the public notice, the draft permit and Statement of Legal & Factual Basis to Jared Kupiec (Chief of Staff for Frank Principal, Prince William County Supervisor) based on interest his office expressed about this facility's current air permits in December 2015. DEQ did not receive any comments from the public, Maryland, the District of Columbia or Prince William County.

EPA Region III (Mary Cate Opila) was provided a copy of the proposed renewal Title V permit, the Statement of Legal and Factual Basis and the public notice on April 12, 2016. EPA provided comments on the proposed permit on May 16, 2016. DEQ provided responses to EPA's comments on May 23, 2016 and deemed acceptable by EPA on May 23, 2016.

Appendix A
PSD PERMIT

ELIZABETH H. HASKELL, CHAIRMAN
MARTINSVILLE
CARL C. REDINGER, VICE CHAIRMAN
ALEXANDRIA

JIMOTHY E. BARROW
VIRGINIA BEACH
MANUEL DEESE
RICHMOND

WALLACE E. REED
CHARLOTTESVILLE



DSE-095-88

COMMONWEALTH of VIRGINIA

State Air Pollution Control Board

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RICHARD L. COOK
EXECUTIVE DIRECTOR

PREVENTION OF SIGNIFICANT AIR QUALITY DETERIORATION PERMIT

APPROVAL TO CONSTRUCT AND OPERATE

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Ogden Martin Systems of Fairfax, Inc.
40 Lane Road, CN 2615
Fairfield, NJ 07007-2615
Registration No. 71920
County-Plant No. 1060-0560

is authorized to construct and operate

a municipal solid waste incinerator
facility with energy recovery

located at

the I-95 Landfill, Route 611,
in the vicinity of Lorton, Virginia

in accordance with the Specific Conditions (emission limitations, monitoring and testing requirements) and the General Conditions set forth in Parts I and II herein.

Approved on the twelfth day of January, 1987 and amended on February 18, 1988.

A handwritten signature in cursive script that reads "Richard L. Cook".
Richard L. Cook
Executive Director

Permit Consists of 14 pages.
Part I - Specific Conditions 1 to 24.
Part II - General Conditions 1 to 19.
Part III - Document List, 29 items.
Part IV - Source Testing Report Format.

PART I - SPECIFIC CONDITIONS - the regulatory reference and authority for each condition is listed in parenthesis () after each condition.

1. The Fairfax County municipal solid waste energy/resource recovery facility is located at the I-95 Landfill, Furnace Road (Route 611).
2. Construction and operation shall be conducted as proposed in the permit application dated June 6, 1986. The permit application and supporting documents (see Document List) are a part of this permit. (Section 120-02-11 of State Regulations)
3. When published, the manual containing the facility operating procedures agreed to by Fairfax County and the vendor selected to construct and operate the plant shall be submitted to the Board and if approved by the Board becomes a specific condition of this permit. It shall include specific instructions on when the incinerator feed is to be stopped and how shut down is to be accomplished with minimal impact on air quality. (Section 120-02-11 of State Regulations)
4. The equipment to be installed consists of:
 - four mass burn water wall furnace/boilers, each with reciprocating stoker grates, Martin-Stoker Boiler System (or equivalent), rated heat capacity 344×10^6 BTU/hour, 750 tons per day capacity, and with auxiliary gas-fired burner, Babcock and Wilcox STS (or equivalent), rated at 115×10^6 BTU/hour.
 - four scrubber-baghouse pollution control systems, Balco-Flact (or equivalent).
5. The facility shall not incinerate more than 3,000 tons of municipal solid waste per day and 1,095,000 tons per year based upon a heating value of 5,500 BTUs per pound. The charging rate per furnace/boiler shall not exceed 750 tons of MSW per day corrected for moisture content. (Section 120-02-11 of State Regulations)
6. Emissions from the operation of each furnace/boiler shall not exceed the limitations specified below:

Particulate Matter	0.010 grains per dry	7.5 lbs/hr	30.0 tons/yr
	cubic feet at standard		
	conditions corrected		
	to 12 percent CO ₂ .		

Sulfur Dioxide	44.4 lbs/hr	176.6 tons/yr
Volatile Organic Compounds	1.7 lbs/hr	6.8 tons/yr
Nitrogen Oxides	<u>206.3 lbs/hr</u>	<u>*716.2 tons/yr</u>
Carbon Monoxide	158.1 lbs/hr	<u>60.3 tons/yr</u>
Lead	1.7 lbs/hr	6.7 tons/yr

*This is equivalent to 5.75 pounds of NO_x per ton of waste burned, 72 hour average, based on 91 percent availability, annual only.

(Sections 120-05-0404 and 120-05-0405 of State Regulations)

7. Non-criteria pollutant emissions from the operation of each furnace/boiler shall not exceed the limitations specified below:

Sulfuric Acid Mist (H ₂ SO ₄)	<u>7.1 lbs/hr</u>	<u>28.30 tons/yr</u>
Hydrogen Chloride (HCl)	28.53 lbs/hr	113.60 tons/yr
Hydrogen Bromide (HBr)	1.93 lbs/hr	7.67 tons/yr
Cadmium (Cd)	4.7 x 10 ⁻² lbs/hr	0.19 tons/yr
Antimony (Sb)	0.14 lbs/hr	0.55 tons/yr
Arsenic (As)	7.3 x 10 ⁻³ lbs/hr	0.03 tons/yr
Mercury (Hg)	0.33 lbs/hr	1.32 tons/yr
Beryllium (Be)	2.0 x 10 ⁻⁴ lbs/hr	7.94 x 10 ⁻⁴ tons/yr
Fluoride (as HF)	0.45 lbs/hr	1.78 tons/yr
<u>Dioxins (USEPA Toxic Equivalents)</u>	<u>2.0 ng/Nm³</u>	<u>2.42 x 10⁻⁶ tons/yr</u>

(Section 120-05-0303 of State Regulations)

8. Particulate and lead emissions in the furnace/boilers flue gas will be controlled by four electrostatic precipitators or equivalent control equipment. The control devices shall be provided with adequate access for inspection.
 (Section 120-08-02 K of State Regulations)

9. Cadmium, antimony, arsenic, beryllium and mercury trace emissions in the furnace/boilers flue gas will be partially controlled by the four electrostatic precipitators or equivalent control equipment. The control devices shall be provided with adequate access for inspection.
(Section 120-08-02 K of State Regulations)
10. Carbon monoxide, nitrogen oxides and volatile organic compound emissions in the furnace/boilers flue gas will be controlled by furnace design and proper operation. Sulfur dioxide and sulfuric acid mist emissions in the furnace/boilers flue gas will be controlled by a combination of the low sulfur content of the waste to be burned and by air pollution control equipment which will reduce emissions by a minimum of 70 percent on an hourly basis. In addition, sulfur dioxide emissions and sulfuric acid mist must not exceed the emission limitations of Conditions 6 and 7, above. Hydrogen chloride, hydrogen bromide and hydrogen fluoride emissions in the furnace/boilers flue gas will be controlled by air pollution control equipment which will reduce emissions by a minimum of 90 percent on an hourly basis. In addition, hydrogen chloride, hydrogen bromide and hydrogen fluoride emissions must not exceed the emission limitations of Condition 7, above.
(Section 120-08-02 K, 120-05-0403, 120-05-0405 and 120-05-0303 of State Regulations)
11. The approved auxiliary fuel for the furnace/boilers is natural gas. A change in the fuel may require a permit to modify and operate. The operation of the furnace/boilers shall meet the requirements of Subpart Db, 40 CFR 60 (Standards of Performance for New Stationary Sources: Industrial-Commercial-Institutional Steam Generating Units) wherein the firing of the furnace/boilers with natural gas is limited to an annual capacity factor of 10 percent or less, in order to be exempt from the nitrogen oxides limitation of 0.30 pounds per million BTU heat input promulgated in § 60.44 (d). Records will be maintained on the amounts of natural gas used as auxiliary fuel in each of the furnace/boilers and be made available for review by SAPCB enforcement personnel during inspections of the facility.
(Sections 120-08-02 and 120-02-11 of State Regulations and Subpart Db 40 CFR 60)
12. In order to facilitate continuing compliance measurements, test ports, safe sampling platforms, safe access to sampling platforms, and utilities for sampling and testing equipment will be provided. Test ports will be located in accordance with approved EPA test methods.
(Section 120-05-03 F of State Regulations)

13. Within the time limits specified in General Condition No. 4 of this permit, and each year thereafter, stack tests for emissions of particulate matter, sulfur dioxide, nitrogen oxides, lead, sulfuric acid mist, hydrogen chloride, hydrogen bromide, fluoride, beryllium, mercury, antimony, arsenic, cadmium, and dioxins and furans from the control equipment shall be conducted. Both upstream and downstream testing of the acid gas control device shall be conducted to demonstrate compliance with the required control efficiencies. Stack tests shall be conducted and reported and data reduced as set forth in Sections 120-05-03 and 120-06-03 of State Regulations and the test methods and procedures contained in each applicable section or subpart listed in Sections 120-05-0502 and 120-06-0102. At the same time, opacity tests, in accordance with 40 CFR, Part 60, Appendix A, Method 9, shall also be conducted on the stack exhaust(s). The details of the emission tests are to be arranged with the Director, Region VII.
(Section 120-08-01 H of State Regulations)
14. Results of the stack tests required in condition 13 above will be submitted to the Board for review. Based on evaluation of these results, emission limits specified in this permit may be revised by the Board.
(Section 120-02-11 of State Regulations)
15. Continuous emission monitors and monitor devices will be installed, calibrated, maintained and operated to measure and record the opacity of stack emissions, the furnace temperature, and concentrations of oxygen, carbon monoxide, nitrogen oxides, and sulfur dioxide emitted from each of the four furnace/boilers and the voltage and amperage or pressure drop appropriate to the installed control equipment. Continuous emission monitors will be maintained and calibrated in accordance with 40 CFR 60, Appendix B.
(Section 120-05-04 of State Regulations) 9VAC 5-50-40
16. Continuing compliance with the emission limits for gaseous pollutants, including organics, shall be achieved by hour-to-hour operation of each boiler furnace within a narrow envelope of furnace/boiler temperature and excess air ranges required to accommodate the varying BTU content of the waste fuel. Each furnace/boiler shall be operated to maintain a furnace temperature of a minimum of 1800° F with a one second residence time at that temperature. The furnace/boiler temperature, excess air, residence time and other parameters shall be properly maintained to ensure maximum destruction of dioxin and precursor compounds. A range of numerical limits for all of these parameters will be determined based on the Performance Tests.
(Section 120-02-11 of State Regulations)

17. Ambient air quality monitoring shall be conducted for particulates, sulfur dioxide, lead, mercury, and cadmium. Monitoring shall be conducted one year prior to start-up and three years following start-up of the facility. The Board will evaluate the data at the end of four years to determine if further monitoring is necessary. (Section 120-08-02 N of the State Regulations)
18. The I-95 Energy/Resource Recovery plant manager/supervisor will maintain daily records of tons of MSW incinerated and facility operating hours. Such records will be maintained on file for a period of two years and made available for review by State Air Pollution Control Board enforcement officers. (Section 120-02-11 of State Regulations)
19. Continuing compliance with emission limits for gaseous pollutants, including organics, shall be demonstrated by conducting semi-annual analysis of total process residues for dry weight combustibles from each furnace/boiler. Design limit of 5 percent for dry weight of combustibles in the residue shall not be exceeded during a 12-hour period with the furnace/boiler fired not less than 90 percent of maximum rated capacity. Samples shall be drawn by Fairfax County authorities and/or the State Air Pollution Control Board enforcement officers and shall be analyzed by an independent test laboratory. (Section 120-02-11 of State Regulations)
20. In order to verify continuous compliance with particulate emission limitations, visible emissions from the stack(s) shall not exceed 10 percent opacity, except for one six-minute period in any one hour of not more than 30 percent opacity. The presence of water vapor in the visible emissions will be excluded from the readings. Failure to continuously maintain this visible emission limitation may require a retest for compliance with particulate and other pollutant emission limitations using approved EPA test methods and procedures. (Section 120-02-11 of State Regulations)
21. To minimize odors at the facility a negative pressure will be maintained on the tipping floor and air from within the building will be used as combustion air. (Sections 120-05-0203 and 120-05-0204 of State Regulations)
22. The Department of Public Works - Fairfax County shall assure that waste haulers shall not deliver hazardous waste to the facility. The waste stream will be monitored at the transfer stations, at the scale house, on the tipping floor and in the refuse bunker to ensure that only household solid waste is being processed by the facility. (Section 120-02-11 of State Regulations)

23. Fairfax County shall submit a Standby Emission Reduction Plan for the E/ER facility as required by Part VII (Air Pollution Episodes), Section 120-07-05, for reducing emissions during periods of alert, warning and emergency stages. The plan will be submitted to the Director, Region VII not later than ninety days after becoming operational.
(Section 120-02-11 and 120-07-05 of State Regulations)
24. The SAPCB will notify the owner/operator of the facility when:
- a. meteorological conditions are favorable for the potential buildup of ozone concentrations in the area for more than 24 hours,
 - b. ozone concentrations in the area exceed the NAAQS, and
 - c. ozone concentrations are no longer expected to exceed the NAAQS.

Owner/operator shall take reasonable actions to minimize impact of the facility during periods of expected adverse air quality.
(Section 120-02-11 of State Regulations)

PART II - GENERAL CONDITIONS

1. Within 10 days after receiving this permit the permittee shall notify the Board (Director, Region VII) in writing of the estimated start-up date of the permitted facility. This notification is for administrative purposes only and need not be a firm date.
(Section 120-02-11 of State Regulations)
2. Quarterly reports on the progress of construction shall be submitted to the Director, Region VII, beginning July 10, 1987 for the quarter ending June 30, 1987.
(Section 120-02-11 of State Regulations)
3. The permittee shall furnish written notification to the Board (Director, Region VII) of:
 - a. The actual date on which construction commenced within 30 days after such date.
 - b. The anticipated start-up date postmarked not more than 60 days nor less than 30 days prior to such date.

- c. The actual start-up date within 15 days after such date.
 - d. The anticipated date of performance tests of the facility postmarked at least 30 days prior to such date.
(Section 120-05-05 of State Regulations)
- 4. Each emission point for which a stack test requirement is established in Part I of this permit shall be tested to determine compliance with the emission limits contained herein within 60 days after achieving the maximum production rate but in no event later than 180 days after start-up of the permitted facility. Compliance test results shall be reported to the Board (Director, Region VII) in writing within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(Sections 120-05-03 and 120-06-03 of State Regulations)
 - 5. The permitted facility shall be designed and constructed so as to allow emissions testing using the methods prescribed upon reasonable notice at any time.
(Sections 120-05-03 and 120-06-03 of State Regulations)
 - 6. All continuous monitoring systems and monitoring devices, as may be applicable for this source, shall be installed and operational prior to conducting performance tests under Sections 120-05-03 and 120-06-03. Performance evaluations of the continuous monitoring system must take place during the performance tests under Sections 120-05-03 and 120-06-03 or within 30 days thereafter. The Board must be furnished with two copies of the report of the performance evaluations within 60 days of these evaluations.
(Sections 120-05-04 and 120-06-04 of State Regulations)
 - 7. The permittee shall maintain records of all emission data and operating parameters required by the terms of this permit. These records shall be retained for a period of at least two years.
(Sections 120-05-05 and 120-06-05 of State Regulations)
 - 8. All air pollution control equipment operators will be trained and certified in the proper operation of all such equipment. The I-95 Energy/Resource Recovery plant manager/supervisor will maintain records of the required training and certification. Certification of training shall consist of a statement of time, place and nature of training provided.
(Section 120-02-11 of State Regulations)
 - 9. The I-95 Energy/Resource Recovery plant manager/supervisor will develop, maintain, and have available to all operators good written operating procedures for all air pollution control equipment. A

maintenance schedule for all such equipment will be established and made available to the State Air Pollution Control Board for review. Records of service and maintenance will be maintained on file by the source for a period of two years.
(Section 120-02-11 of State Regulations)

10. The Board reserves the right to modify and, if appropriate, to reissue or to rescind this permit if prior to operation there is a substantive change to the design capacity or the fundamental nature of the process or control equipment such that the potential to emit of any facility is increased.
(Section 120-02-11 of State Regulations)
11. The Board reserves the right to modify and, if appropriate, to reissue or to rescind this permit if prior to operation there is a substantive change in any of the data upon which the decision to approve this permit was based.
(Section 120-02-11 of State Regulations)
12. All local zoning and building requirements must be met before commencing construction.
(Section 120-02-11 of State Regulations)
13. If, for any reason, the permittee does not comply or will not be able to comply with the emission limitations or other conditions specified in this permit, the permittee shall provide in writing to the Board (Director, Region VII) the following information as soon as possible but no later than five days after such conditions become known to the permittee:
 - a. description of noncompliance;
 - b. cause of noncompliance;
 - c. anticipated time the noncompliance is expected to continue or, if corrected, the actual duration of noncompliance;
 - d. steps taken by the permittee to minimize or eliminate the noncompliance; and
 - e. steps taken by the permittee to prevent recurrence of the noncompliance.

Submittal of this report does not constitute a waiver of the emission limitations or other conditions of this permit nor does it in any way restrict the SAPCB's authority to enforce the permit conditions pursuant to Section 113 of the Clean Air Act.
(Section 120-02-11 of State Regulations)

14. The permitted facility is to be constructed and operated as represented in the permit application referenced in Condition 2 of Part I. No changes in the permit application specifications or any existing facilities shall be made which alter the emissions into the ambient air or alter the impact of the facility on air quality without the prior written approval of the Board.
(Section 120-02-11 of State Regulations)
15. The facility shall operate in compliance with Rule 5-3, Non-Criteria Pollutants. No changes in the facility that alter emissions of any non-criteria pollutant or cause the emission of additional non-criteria pollutants shall be made without the prior written approval of the Board.
(Section 120-05-0305 of State Regulations)
16. This approval shall become invalid if construction of the proposed plant is not commenced within 18 months from the date of this permit or if it is discontinued for a period of 18 months.
(Section 120-08-02 S of State Regulations)
17. In the event of any change in control of ownership of the permitted source, the permittee shall notify the succeeding owner of the existence of this permit by letter and send a copy of that letter to Director, Region VII.
(Section 120-02-11 of State Regulations)
18. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of that provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
(Section 120-02-11 of State Regulations)
19. This permit approval is only applicable to the permit requirements of the State Air Pollution Control Board and does not alter permit requirements by any other local, state, or federal government agency. Ogden Martin Systems of Fairfax, Inc. is cautioned that approval of this permit should not be construed to mean its operation is automatically in compliance with all aspects of the Regulations for the Control and Abatement of Air Pollution. State Air Board personnel will be constantly evaluating all sources for compliance with Part V, Section 120-05-0103 - Standard for Visible Emissions, Section 120-05-0104 - Standard for Fugitive Dust/Emissions, and Section 120-05-0203 - Standard for Odorous Emissions. Compliance with all air pollution regulations must be a continuing, full time effort.
(Section 120-02-11 of State Regulations)

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate your response to requests for information to include, as appropriate: fuel consumption by type, heat value, sulfur and ash content; process and production data; refuse disposal by incineration including auxiliary fuels burned; storage, handling and use of liquid organic compounds; and, changes in stack data, control equipment, and operating schedules. Such requests for information from the Regional Office will either be in writing or by personal contact of field enforcement personnel. Emissions data provided to the Board by a source must be made available to the public upon request; process data for individual facilities and plants will be made available to the public upon request unless the source claims, in writing, the information is proprietary and that it should be held as confidential.

(Section 120-02-31 of State Regulations)

PART III - DOCUMENT LIST

1. Department of Public Works - Fairfax County, permit application (Prevention of Significant Deterioration), dated June 6, 1986, complete with supporting documentation prepared by Camp Dresser and McKee.
2. Region VII memorandum to Division of Source Evaluation, dated September 9, 1986, providing engineering evaluation with draft documents concerning public comment period and draft permit letter with conditions.
3. PSD determination letter to Fairfax County, dated December 20, 1985.
4. Memoranda dated August 8, 1986 and August 11, 1986 from State Air Pollution Control Board engineer, Robert Garrett, to Director, Division of Computer Services concerning the PSD Modeling Report for the Fairfax County I-95 Energy Resource Recovery Facility.
5. Memorandum dated September 15, 1986 from Engineer, Region VII to Director, Division of Source Evaluation, concerning the exemption of municipal incinerators from NESHAP for beryllium (40 CFR 61, Subpart C).
6. Letter to Mr. Ronald N. Wrye, Superintendent, Shenandoah National Park which notified the organization of the Fairfax County Waste-to-energy recovery facility project, signed by William N. Millward, SAPCB Region VII and dated August 25, 1986.

7. Memoranda, dated November 10, 1986 and November 19, 1986 from Director, Region VII to Director, Division of Source Evaluation summarizing the public hearing on November 5. Supporting documents included.
8. Department of Public Works, County of Fairfax letter to Director, Region VII notifying the SAPCB of differences between the theoretical facility design parameters of the 1986 PSD permit application and the current design of the County's I-95 Energy/Resource Recovery Facility, dated June 2, 1987.
9. Director, Division of Computer Services memorandum requiring the Fairfax County I-95 Energy/Resource Recovery Facility PSD permit to be remodelled because of proposal deviations in the emissions and stack parameters, dated June 26, 1987.
10. Director, Region VII, State Air Pollution Control Board letter to the Director, Department of Public Works, County of Fairfax notifying the County of the requirement for remodelling and discussion of the details with the Director, Division of Computer Services, dated July 6, 1987.
11. Ogden Projects, Incorporated letter to County of Fairfax providing data on physical design parameters and proposed emission level changes, dated August 21, 1987 and Department of Public Works, County of Fairfax letter to Director, Region VII, State Air Pollution Control Board forwarding request and seeking approval, dated August 27, 1987.
12. Ogden Martin Systems, Incorporated letter to the Director, Division of Computer Services providing proposed modelling protocol for approval, dated September 2, 1987.
13. Department of Public Works, County of Fairfax (Division of Solid Waste) letter to Director, Region VII transmitting a copy of the County's Service Agreement with Ogden Martin Systems of Fairfax, Incorporated and requesting transfer (ownership) of the PSD permit to Ogden Martin Systems of Fairfax, Incorporated, dated October 16, 1987.
14. Ogden Projects, Incorporated letter to Director, Region VII, State Air Pollution Control Board requesting approval of adjustments (modifications) to the PSD permit for the I-95 Energy/Resource Recovery Facility, dated October 19, 1987.
15. Ogden Projects, Incorporated letter to Director, Region VII, State Air Pollution Control Board referencing request of October 19, 1987 providing additional refined modeling analyses, dated November 4, 1987.

16. State Air Pollution Control Board letter to Ogden Martin Systems, Incorporated changing the ownership/name of the proposed I-95 Energy/Resource Recovery Facility to Ogden Martin Systems of Fairfax, Incorporated, dated November 10, 1987.
17. Ogden Projects, Incorporated letter to Executive Director, State Air Pollution Control Board providing additional material and specific responses to questions from the State Air Pollution Control Board staff concerning the request to modify the PSD permit for the I-95 Energy/Resource Recovery Facility, dated December 10, 1987, as amended December 18, 1987.
18. Division of Computer Services memorandum Report on Modeling for Proposed Changes to the Fairfax County I-95 Energy/Resource Recovery Facility (Ogden Martin Systems of Fairfax, Incorporated, dated December 28, 1987.
19. Engineering evaluation State Air Pollution Control Board staff memorandum to Executive Director, dated December 30, 1987.
20. Wallace E. Reed, Board Member, letter to the Assistant Executive Director, Operations requesting more information and answers to questions on the proposal, dated December 31, 1987.
21. Division of Monitoring memorandum report on 1987 NMOC Monitoring in Northern Virginia providing conclusions concerning the validity of the monitoring data at the Aurora Hills station in Arlington and providing NMOC/NO_x ratios data for the Mt. Vernon station in Fairfax, dated January 11, 1988.
22. Division of Computer Services memorandum report on Air Quality Modeling to Predict NO_x Impact in Region VII caused by the proposed changes to the I-95 E/RR Facility, dated January 21, 1988.
23. Region VII SPCB memorandum Report of Public Hearing - Revised Emission Limits for Fairfax County WTE Plant to Director, Source Evaluation Division, dated January 22, 1988.
24. Executive Director, SPCB letter to Director, Department of Public Works, Fairfax County providing schedule for the Board meeting to act on the Ogden Martin request for changes to the PSD permit dated January 25, 1988.
25. Ogden Martin Systems letter to the State Air Pollution Control Board staff providing Thermal DeNOX cost data on the Stanislaus, California facility and calculations supporting the estimated cost for Thermal DeNOX on the Fairfax County facility, dated January 25, 1988.

26. Fish and Wildlife Service, U.S. Department of Interior letter dated January 26, 1988 to the Assistant Executive Director, SAPCB providing signed copy of letter jointly signed by the Acting Superintendent of the Shenandoah National Park and the Refuge which was previously submitted unsigned at the public hearing on January 21, 1988.
27. Region VII SPCB memorandum to the Director, Division of Source Evaluation forwarding the Public Hearing-Verbatim Transcript Reports, Ogden Martin Systems of Fairfax, Inc. PSD Permit Modification to Fairfax County I-95 Energy/Resource Recovery Facility, dated January 27, 1988.
28. EPA Region III letter to Assistant Executive Director, Operations, SPCB providing comments in response to the public hearing of January 21, 1988 on the proposed amendments to the Fairfax County I-95 E/RR facility, dated January 28, 1988.
29. Ogden Martin System of Fairfax, Inc. letter dated February 4, 1988 to Director, Region VII, SPCB providing detailed response to Executive Director letter of January 25, 1988 to Director, Public Works Department, Fairfax County and included information on ozone and acid rain issues.

PART IV - SOURCE TESTING REPORT FORMAT

Cover

1. Plant name and location
2. Source sampled
3. Testing company or agency, name, address and report date

Certification

1. Certification by team leader
2. Certification by reviewer (e.g., P.E.)

Introduction

1. Test purpose
2. Test location, type of process (indicate Reference No. used by source in permit or Registration)
3. Test dates
4. Pollutants tested
5. Observers' names (industry and agency)
6. Any other important background information

Summary of Results

1. Emission results
2. Process data as related to determination of compliance (quantity of ink solvents used during test and amount recovered)
3. Allowable emissions
4. Description of collected samples
5. Visible emissions summary
6. Discussion of errors, both real and apparent

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Process data and results with example calculations
4. Representatives of raw materials and products
5. Any specially required operation demonstrated

Sampling and Analysis Procedures

1. Sampling port location and dimensioned cross section
2. Sampling point description, including labeling system
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

Appendix

1. Complete results with example calculations
2. Raw field data (original, not computer printouts)
3. Laboratory report with chain of custody
4. Raw production data signed by plant official
5. Test log
6. Calibration procedures and results
7. Project participants and titles
8. Related correspondence
9. Standard procedures

Appendix B
RACT PERMIT



NVRO-042-98

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193
(703) 583-3840
Fax (703) 538-3841

CONSENT AGREEMENT

WITH

Ogden Martin Systems of Fairfax, Incorporated
40 Lane Road
P.O. Box 2615
Fairfield, New Jersey 07007-2615

Registration No. 71920

SECTION A: Purpose

This Agreement establishes a schedule for compliance with the terms of the consent agreement (hereafter referred to as the "RACT Agreement") which establishes a Reasonably Available Control Technology (RACT) standard for Ogden Martin Systems of Fairfax, Inc. for the control of nitrogen oxides (NO_x) emissions at the I-95 Energy/Resource Recovery Facility as required by 9 VAC 5-40-310 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution.

SECTION B: References

Unless the context indicates otherwise, the following words and terms have the meanings assigned to them below:

"Agreement" means this Consent Agreement.

"Board" or "SAPCB" means the State Air Pollution Control Board, a collegiate body of the Commonwealth of Virginia described in § 10.1-1301

of the Code. Particular powers and duties of the Board are described in Section C of this document.

"Code" means the Code of Virginia.

"DEQ" means the Department of Environmental Quality, an agency of the Commonwealth described in § 10.1-1183 of the Code.

"Director" means the Director of the Department of Environmental Quality. Particular powers and duties of the Director are described in Section C of this document.

"EPA" means the United States Environmental Protection Agency.

"Municipal Waste Combustor" or "MWC" means any device that combusts, solid, liquid, or gasified municipal solid waste including, but not limited to, field-erected incinerators (with or without heat recovery), modular incinerators (starved air or excess air), boilers (i.e., steam generating units), furnaces (whether suspension-fired, grate-fired, mass-fired, or fluidized bed-fired) and gasification/combustion units.

"Non-CTG" means a source type for which the EPA has not issued a Control Technique Guideline (CTG), and thus has not established RACT for that source type.

"NO_x" means nitrogen oxides as defined by 9 VAC 5-10-20 of the SAPCB Regulations.

"Ogden Martin" or "affected facility" or "Fairfax facility" means the I-95 Energy/Resource Recovery Facility located at 9898 Furnace Road, Lorton, Virginia, operated by Ogden Martin Systems of Fairfax, Incorporated.

"Ogden Energy Group, Inc." is a company providing corporate support to Ogden Martin Systems of Fairfax, Incorporated.

"RACT Agreement" means the consent agreement between Ogden Martin Systems of Fairfax, Inc. and DEQ that establishes the Reasonably Available Control Technology (RACT) standard for the control of nitrogen oxide (NO_x) emissions at the I-95 Energy/Resource Recovery Facility.

"Reasonably Available Control Technology" or "RACT" means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is both reasonably available, as well as technologically and economically feasible.

"Regional Director" means the Director of the Northern Virginia Regional Office of the Department of Environmental Quality, located at 13901 Crown Court in Dale City (Woodbridge), Virginia.

"SAPCB Regulations" means *9 VAC 5 Chapters 10 through 80*.

"SIP" or "State Implementation Plan" means the portion or portions of the plan, or the most recent revision thereof, which has been approved under § 110 of the federal Clean Air Act, or promulgated under § 110(c) of the federal Clean Air Act, or promulgated or approved pursuant to regulations promulgated under § 301(d) of the federal Clean Air Act and which implements the relevant requirements of the federal Clean Air Act.

"SNCR" means selective non-catalytic reduction, a means of controlling combustion-produced nitrogen oxides emissions by injection of an ammonia-based reagent into the flue gases.

"Theoretical potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. It is based on emissions at design capacity or maximum production and maximum operating hours (8,760 hours per year) before add-on controls, unless the source is subject to state and federally enforceable permit conditions which limit production rates or hours of operation.

"Units" means the individual boilers (combustors) which are fueled primarily by refuse and which supply steam to electric power generating turbines. The units are numbered 1 through 4.

"VOC" means volatile organic compounds as defined by *9 VAC 5-10-20* of the SAPCB Regulations.

"VAC" or "9 VAC" means *Title 9 of the Virginia Administrative Code*. This title comprises the environmental regulations for the Commonwealth of Virginia, including the regulations of the State Air Pollution Control Board.

SECTION C: Authority

1. Chapter 13 of Title 10.1 of the Code creates the Board and vests in it the authority to supervise and control various aspects of air pollution in the Commonwealth. Among the Board's powers is the authority to promulgate regulations "abating, controlling and prohibiting" air pollution, found in § 10.1-1308 of the Code.
2. Pursuant to its authority, the Board has promulgated the SAPCB Regulations, which first took effect March 17, 1972 and have been periodically amended.
3. Pursuant to § 10.1-1307 D of the Code, the Board has the authority to issue orders to diminish or abate the causes of air pollution and to enforce its regulations. Orders of the Board are enforceable pursuant to §§ 10.1-1316 and 10.1-1320 of the Code.
4. The Director is the executive officer of the Board. Under § 10.1-1307.2 A of the Code, the Director is to perform those duties required of him by the Board. Additionally under § 10.1-1307.3 of the Code, the Director has such powers to supervise, administer and enforce the provisions of Chapter 13 of Title 10.1 of the Code, as well as the regulations and orders of the Board, as are conferred upon him by the Board. The powers and duties conferred and imposed upon the Director under §§ 10.1-1307.2 and 10.1-1307.3 of the Code are continued under § 10.1-1185 of the Code.
5. Under § 10.1-1307.2 B of the Code, the Director may be vested with the authority of the Board when it is not in session, subject to such regulations or delegation as may be prescribed by the Board. 9 VAC 5-20-130 of the SAPCB Regulations contains the Delegation of Authority from the Board to the Director. In subdivision C 1 of 9 VAC 5-20-130 the Director is given the authority, with some exceptions, to act for the Board when it is not in session and to issue consent orders and emergency special orders.

SECTION D: Findings

1. Ogden Martin Systems of Fairfax, Inc. operates a resource recovery facility in which refuse is burned to produce steam for electric power generation at 9898 Furnace Road in Lorton (Fairfax County), Virginia.
2. 9 VAC 5-40-310 (formerly Section 120-04-0408) of the SAPCB Regulations, which became effective on January 1, 1993, requires RACT for all major stationary sources of NO_x emissions in the Northern Virginia Ozone Nonattainment Area, which includes the Cities of Alexandria, Fairfax, Falls Church, Manassas, Manassas Park, and the Counties of Arlington, Fairfax, Loudoun, Prince William and Stafford.
3. By letter dated March 27, 1995, EPA commented on a RACT consent agreement between an electric utility and DEQ. EPA stated that since the consent agreement proposed a compliance date after May 31, 1995, while failing to demonstrate that such an extension to the statutory compliance deadline fell within the EPA guidelines for granting an extension, "the Commonwealth may want to consider maintaining May 31, 1995, as the enforceable deadline, and issuing a Consent Order or other enforcement tool that establishes a schedule for the facility to come into compliance...An enforcement approach will allow EPA to similarly impose the May 31, 1995 deadline, but allow the facility the time that it will need to comply with RACT without incurring penalties unless the facility fails to meet a required milestone."
4. Ogden Martin Systems of Fairfax, Inc. and DEQ signed a consent agreement of even date with this Agreement which establishes NO_x RACT and the means of determining compliance for the affected facility.
5. In order to comply with the request of EPA made in the letter dated March 27, 1995, DEQ believes it is necessary to compose a separate consent agreement specifically to enforce a compliance schedule for each RACT consent agreement to which it is a party that will not be fully implemented by May 31, 1995. This document constitutes such an agreement.

6. Ogden Martin estimates that approximate facility-wide NO_x reductions (below 1997 baseline) in tons per quarter achieved by the Fairfax facility will be as follows:

<u>During</u> <u>Quarter</u>	<u>Year</u>	<u>Estimated</u> <u>Quarterly NO_x</u> <u>Reduction (tons)</u>	<u>Estimated</u> <u>Cumulative NO_x</u> <u>Reduction (tons)</u>
1st	2000	0	0
2nd	2000	5.6	5.6
3rd	2000	81.4	87.0
4th	2000	106.6	193.6

Note: These estimates are for DEQ planning purposes only.

SECTION E: Agreement

Accordingly, the Board and Ogden Martin agree that:

1. Implementation of the terms of the RACT Agreement shall be according to the schedule provided in the following paragraphs.
2. Ogden Martin shall comply with the terms of the schedule below:

	Due Date for Final Control Plan Submission	Due Dates for Contract or Purchase Or- der Issuance	Date Onsite Construction to Begin By	Date Con- struction Completed By	Due Date for Final Compliance*
Units 1,2,3 & 4	3/01/99	10/15/99	3/01/00	11/19/00	12/19/00

* As defined at §62.14108(a)(5) of the Federal Register of January 23, 1998

3. Beginning with the calendar quarter during which the first implementation milestone is scheduled (paragraph E.2 above), Ogden Martin shall submit to the DEQ Regional Air Compliance Manager no less than five days following each calendar quarter a status report for that quarter describing the progress toward each milestone specified in paragraph E.2 above and noting the achievement of or failure to achieve any milestone which paragraph E.2 shows as falling within the quarter being reported. Submission of these milestone status reports may be discontinued following submission of the report for the quarter in which the last milestone is achieved.
4. A revision of the RACT Agreement shall not be cause to terminate or revise Section E of this Agreement except by mutual agreement of the signatory parties.
5. The Board may modify, rewrite, or amend this Agreement with the consent of Ogden Martin, for good cause shown by Ogden Martin, or on its own motion provided approval of the changes is accomplished in accordance with SAPCB regulations and the Administrative Process Act (§ 9-6.14:1 et. seq.).

6. So long as this Agreement remains in effect, Ogden Martin waives the right to any hearing pursuant to §§ 9-6.14:11 and 9-6.14:12 of the Code and to judicial review of any issue of fact or law contained herein. Nothing herein, however, shall be construed as a waiver of the right to a hearing or to judicial review of any action taken by the Board to enforce this Agreement.
7. Failure by Ogden Martin to comply with any of the terms of this Agreement shall constitute a violation of an Order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
8. Ogden Martin declares it has received fair and due process under the Administrative Process Act (§ 9-6.14:1 et. seq.).
9. This Agreement shall become effective upon signature by both parties and shall continue in effect indefinitely or until otherwise terminated by the Board.

The foregoing Consent Agreement has been executed on behalf of the STATE AIR POLLUTION CONTROL BOARD of the COMMONWEALTH OF VIRGINIA and on behalf of Ogden Martin Systems of Fairfax, Inc., each by its duly authorized representatives, or self, on the dates indicated below.

DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE COMMONWEALTH OF VIRGINIA

4/3/98
(date)

BY: John M. Hopkins
Thomas L. Hopkins
Director

OGDEN MARTIN SYSTEMS OF FAIRFAX, INC.

3-18-98
(date)

BY: John M. Klett
John M. Klett
Executive Vice President,
Operations

(State in which notary is commissioned)

(County in which notary is commissioned)

The foregoing instrument was acknowledged before me this _____ day of _____, 1998, by John M. Klett, Executive Vice President, Operations, Ogden Martin Systems of Fairfax, Incorporated, a Virginia Corporation, on behalf of the Corporation.

My commission expires _____.

Notary Public

Appendix C
Emissions Inventory for 2015

CEDSAir

Home / Process: 1 / Covanta Fairfax, Inc.

Site: Covanta Fairfax, Inc. (71920) 9898 Furnace Rd, Lorton, VA 22079

General Permits **Emissions** Inspections Enforcement Requirements Events Contacts

Targeting Data Financials

Site
EmissionsSite
InformationEmission
Year StatusRelease
Points

Units

Processes

Emissions
Drill Down

Road Map

Emission
Limits
ReportCriteria
Emissions
(Pie)Criteria
Emissions
(Bar)**2015 Emission Year Review**

Final

Permit Limits Complete and
Current

Reset Status to Draft

Last Active Permit: 12/11/2006

Last AUR: 01/06/2016

Permit Limits Complete & Current By:

JAWILKINSON @ 05/17/2016 12:51 PM

Data Entry Completed By: JAWILKINSON

@ 05/17/2016 12:52 PM

Update Comments

Filter:

Review Flags

No review flags generated or AUR data entry not complete.

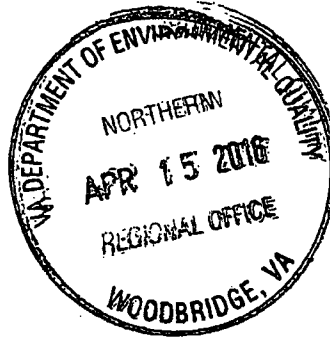
© Virginia Department of Environmental Quality 2013-2016

UI: 1.2.23 a4c508978453bfc6d54191a316048849d8e8c8b1

API: 1.2.23 60d34ec3d71f8d6f63a8739d7acd5cdaae760628

5/17/2016

Covanta Fairfax, Inc.
A Covanta Company
9898 Furnace Rd
Lorton, VA 22079
Tel 703 690 6860
Fax 703 690 4223



April 14, 2015

Mr. Justin Wilkinson
Virginia Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193

Reference: 2015 Annual Emissions Statement and Update

Dear Mr. Wilkinson,

Pursuant to the Department's request dated January 6, 2016, required by 9 VAC 5-20-160 and VAC 5-80-340 of DEQ's Regulations for the Control and Abatement of Air Pollution, CFI hereby submits:

- 2015 Emission Statement
- Document Certification
- 2015 Annual Update
- Option I: Emission Factor Method

Please contact me if you have any questions or comments regarding this report.

Sincerely,


Frank Capobianco
Facility Manager

SPD/jh

cc: L. Boone (Fairfax County Solid Waste)
D. Shabat (D&B Engineers and Architects, P.C.)
J. Herrmann (CFI)



DOCUMENT CERTIFICATION

Facility Name: Covanta Fairfax, Inc.

Registration #: 71920


Facility Location: 9898 Furnace Road, Lorton, VA 22079

Type of Submittal Attached: 2015 Emission Statement & Update

Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Official (Print): Frank Capobianco

Title: Facility Manager

Signature:  Date: 4/14/2016

4/14/2016, 4:06 PM

**Commonwealth of Virginia
Department of Environmental Quality
Annual Update Report for Calendar Year:**

2015

Registration No.	71920	Office:	Northern Regional Office
Site Name:	Covanta Fairfax, Inc.	County / City:	Fairfax County 059
Physical Location:	9898 Furnace Rd, Lorton, VA 22079	NAICS:	Solid Waste Combustors and Incinerators 562213
Mailing Address:	9898 Furnace Rd	Employees:	55
	Lorton, VA 22079	Inspector:	Paul Foxwell Phone: (703) 583-3824
Annual Update Report Contact:	Michael Blackwelder Phone: (703) 690-6860 Email: mblackwelder@covantaenergy.com	Classification:	Major/Potential Major
Billing Contact:	Michael Blackwelder Phone: (703) 690-6860 Email: mblackwelder@covantaenergy.com		

Process Data

CEDS ID (RelPt-Unit- Process)	Process Description	Annual Throughput Annual Throughput by Season (%)					Fuel Data					
		CY 2014		CY 2015		Units	Sulfur (Wt%)		Ash (Wt%)		Heat Content (MMBtu/unit)	
		CY 2014	CY 2015	Units	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015		
1-1-1	1 ZURN IND. FURNACE	17.57	23.186	Million Cubic Feet Burned		0.001	0.001	0.001	0.001	1000	1000	
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov							
		24.1	24.5	28.3	23.1							CY 2014
		Unit Ref ID: 1	35.500	18.2	26%							20%
1-1-2	1 MARTIN GMBH STOKER UNIT	7606.5	7389.85	HOURS OPERATED								
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov							
		24.1	24.5	28.3	23.1							CY 2014
		Unit Ref ID: 1	25%	24%	26%							25%
1-1-3	1.MARTIN GMBH STOKER UNIT	242936	216049.0	Tons Burned		0.13	0.013	26.8	23.3	10	10	
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov							
		24.1	24.5	28.3	23.1							CY 2014
		Unit Ref ID: 1	25%	24%	26%							25%
2-2-1	2 ZURN IND. FURNACE	15	21.766	Million Cubic Feet Burned		0.001	0.001	0	0.001	1000	1000	
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov							
		25	22	29	24							CY 2014
		Unit Ref ID: 2	32%	18%	32%							19%
2-2-2	2 MARTIN GMBH STOKER UNIT	7657.25	7983.75	HOURS OPERATED								
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov							
		25	22	29	24							CY 2014
		Unit Ref ID: 2	26%	25%	27%							22%

2-2-3	2 MARTIN GMBH STOKER UNIT	246784	237460.0	Tons Burned		0.13	0.013	26.8	25.7	10	10
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		25	22	29	24						
	Unit Ref ID: 2	26%	26%	25%	23%	CY 2014					
						CY 2015					
3-3-1	3 ZURN IND. FURNACE	16.11	22.823	Million Cubic Feet Burned		0.001	0.001	0	0	1000	1000
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		21	27.1	19.4	32.5						
	Unit Ref ID: 3	31%	20%	29%	21%	CY 2014					
						CY 2015					
3-3-2	3 MARTIN GMBH STOKER UNIT	7853.75	7959.95	HOURS OPERATED							
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		21	27.1	19.4	32.5						
	Unit Ref ID: 3	26%	23%	26%	25%	CY 2014					
						CY 2015					
3-3-3	3 MARTIN GMBH STOKER UNIT	256265	245283	Tons Burned		0.13	0.013	26.8	26.5		10
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		21	27.1	19.4	32.5						
	Unit Ref ID: 3	27%	24%	26%	23%	CY 2014					
						CY 2015					
4-4-1	4 ZURN IND. FURNACE	15.88	20.041	Million Cubic Feet Burned		0.001	0.001	0	0	1000	1000
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		18	25.8	31	25.2						
	Unit Ref ID: 4	30%	19%	32%	20%	CY 2014					
						CY 2015					
4-4-2	4 MARTIN GMBH STOKER UNIT	7875.5	7542.55	HOURS OPERATED							
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		18	25.8	31	25.2						
	Unit Ref ID: 4	25%	25%	26%	23%	CY 2014					
						CY 2015					
4-4-3	4 MARTIN GMBH STOKER UNIT	233198	234236	Tons Burned		0.13	0.013	26.8	25.3	10	10
		Dec-Feb	Mar-May	Jun-Aug	Sep-Nov						
		18	25.8	31	25.2						
	Unit Ref ID: 4	26%	26%	25%	24%	CY 2014					
						CY 2015					
During the reporting period, have changes or corrections occurred? <input checked="" type="radio"/> Yes <input type="radio"/> No If yes, briefly explain:											
Change Annual Update Report Contact and Billing Contact to: Frank Capobianco. Email: fcapobianco@covanta.com											

Based on the data you are reporting, are you aware of any potential air permit violations?

☐ Yes ☒ No

If yes, briefly explain:

Document Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Official (Print) Frank N Capobianco

Title Facility Manager

Signature [Signature]

Date 4-14-2016

Must be signed by a Responsible Official as defined in 9 VAC 5-20-230 of the Regulations for the Control and Abatement of Air Pollution, available at: <http://www.deq.virginia.gov/>

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

RELEASE POINT NUMBER: Unit 1 Stack

REGISTRATION #: 71920

	ANNUAL
RELEASE POINT HEIGHT (ft)	288
RELEASE POINT DIAMETER (ft)	7.8
EXIT GAS TEMPERATURE (E F)	235
EXIT GAS VELOCITY (ft per second)	65.90
ELEVATION (ft above sea level)	200
GAS FLOW RATE (cu.ft per minute)	190541

RELEASE POINT NUMBER: Unit 2 Stack

	ANNUAL
RELEASE POINT HEIGHT (ft)	288
RELEASE POINT DIAMETER (ft)	7.8
EXIT GAS TEMPERATURE (E F)	267
EXIT GAS VELOCITY (ft per second)	67.41
ELEVATION (ft above sea level)	200
GAS FLOW RATE (cu.ft per minute)	194931

RELEASE POINT NUMBER: Unit 3 Stack

	ANNUAL
RELEASE POINT HEIGHT (ft)	288
RELEASE POINT DIAMETER (ft)	7.8
EXIT GAS TEMPERATURE (E F)	269
EXIT GAS VELOCITY (ft per second)	74.92
ELEVATION (ft above sea level)	200
GAS FLOW RATE (cu.ft per minute)	216624

RELEASE POINT NUMBER: Unit 4 Stack

	ANNUAL
RELEASE POINT HEIGHT (ft)	288
RELEASE POINT DIAMETER (ft)	7.8
EXIT GAS TEMPERATURE (E Ft)	257
EXIT GAS VELOCITY (ft per second)	77.35
ELEVATION (ft above sea level)	200
GAS FLOW RATE (cu.ft per minute)	223658

RELEASE POINT NUMBER: _____

	ANNUAL
RELEASE POINT HEIGHT (ft)	
RELEASE POINT DIAMETER (ft)	
EXIT GAS TEMPERATURE (E Ft)	
EXIT GAS VELOCITY (ft per second)	
ELEVATION (ft above sea level)	
GAS FLOW RATE (cu.ft per minute)	



VIRGINIA DEPARTMENT OF
ENVIRONMENTAL QUALITY

2015 EMISSION STATEMENT

Please correct any errors in the information below (cross out & replace)

FACILITY NAME COVANTA FAIRFAX, INC.		REGISTRATION # 71920	
LOCATION ADDRESS 9898 Furnace Rd, Lorton, VA 22079		COUNTY/CITY Fairfax County 059	
MAILING ADDRESS 9898 Furnace Rd Lorton, VA 22079			
CONTACT PERSON MICHAEL BLACKWELDER Frank Capobianco, Facility Manager	TELEPHONE NUMBER 7036906860 x605	PRIMARY NAICS CODE Solid Waste Combustors and Incinerators	For Agency Use Only

FACILITY TOTALS (Sum emissions from attached pages)

INVENTORY YEAR 2015	ANNUAL		OZONE SEASON	
TOTAL VOC EMISSIONS	6.061	TONS/YR	39.901	LBS/DAY
TOTAL NO _x EMISSIONS	1647.874	TONS/YR	10022.77	LBS/DAY
TOTAL SO ₂ EMISSIONS	121.633	TONS/YR	NA	
TOTAL PM ₁₀ EMISSIONS	14.056	TONS/YR	NA	
TOTAL PB EMISSIONS	3.8E-02	TONS/YR	NA	
TOTAL TRS EMISSIONS	NA	TONS/YR	NA	
TOTAL TNMOC EMISSIONS (landfills only)	NA	TONS/YR	NA	
TOTAL non-VOC/non-PM HAP EMISSIONS	53.505	TONS/YR	NA	
TOTAL CO EMISSIONS	21.081	TONS/YR	NA	
TOTAL PM _{2.5} EMISSIONS	0.155*	TONS/YR	NA	
TOTAL NH ₃ EMISSIONS	NA	TONS/YR	NA	

PLEASE ATTACH "ANNUAL UPDATE REPORT" FORM.

PLEASE ATTACH "EMISSION STATEMENT CERTIFICATION" with appropriate signature.

*Natural Gas only / AP-42.

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 1

UNIT NO.: 1

PROCESS NO.: 1

SCC NO.: 10200601

	ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) Natural Gas UI	23.196 Million Cubic Feet		6.099 Million Cubic Feet	
NO. OPERATING DAYS	88	days	29	days
NO. OPERATING HOURS PER DAY	NA	hours	NA	hours
DAILY THRUPUT (with units) = Thruput per day	NA		0.210 Million Cubic Feet	per day
VOC EMISSION FACTOR (with units) = EF	5.5 LB/MMSCF		5.5 LB/MMSCF	
Emission Factor source ¹	AP-42	D	AP-42	D
Control Efficiency basis ²				
VOC CONTROL DEVICE CODE ³	048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE	Estimated 50	%	Estimated 50	%
VOC EMISSIONS ⁵	0.032	tons VOC per yr	0.578	lbs VOC per day
NOx EMISSION FACTOR (with units) = EF	140 LB/MMSCF		140 LB/MMSCF	
Emission Factor source ¹	AP-42	D	AP-42	D
Control Efficiency basis ²				
NOx CONTROL DEVICE CODE ³	032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE	Estimated 50	%	Estimated 50	%
NOx EMISSIONS ⁵	0.812	tons NOx per yr	14.7	lbs NOx per day
SO2 EMISSION FACTOR (with units) = EF	0.6 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA	%		%
SO2 CONTROL DEVICE CODE ³	041, 68, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE	91.3*	%		%
SO2 EMISSIONS ⁵	6.1E-04	tons SO2 per yr		lbs SO2 per day
PM10 EMISSION FACTOR (with units) = EF	7.6 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA	%		%
PM10 CONTROL DEVICE CODE ³	016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE	Estimated 50	%		%
PM10 EMISSIONS ⁵	0.044	tons PM10 per yr		lbs PM10 per day
PB EMISSION FACTOR (with units) = EF	5.0E-04 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
PB CONTROL DEVICE CODE ³	041, 68, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE	Estimated 50	%		%
PB EMISSIONS ⁵	2.9E-06	tons PB per yr		lbs PB per day

*Annual Stack Test Removal Efficiency.

Emission Factor: LB/MMSCF (10E-06 SCF)

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100 ; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 1

UNIT NO.: 1

PROCESS NO.: 1

SCC NO.: 10200601

		ANNUAL	PEAK OZONE SEASON (JUNE, JULY, AUGUST)
THRUPUT (with units) Natural Gas U1		23.196 Million Cubic Feet	
NO. OPERATING DAYS		88 days	
NO. OPERATING HOURS PER DAY		NA hours	
DAILY THRUPUT (with units) = Thruput per day		NA	
TRS Emission Factor (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TRS CONTROL DEVICE CODE ³			
Avg. TRS CONTROL EFFICIENCY ⁴ = CE		%	%
TRS EMISSIONS ⁵		tons TRS per yr	tons TRS per day
TNMOC EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TNMOC CONTROL DEVICE CODE ³			
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE		%	%
TNMOC EMISSIONS ⁵		tons TNMOC per yr	tons TNMOC per day
CO EMISSION FACTOR (with units) = EF		84.0 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42 D	
CO CONTROL DEVICE CODE ³		033	
Avg. CO CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %	%
CO EMISSIONS ⁵		0.487 tons per yr	tons per day
PM 2.5 EMISSION FACTOR (with units) = EF		5.7 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42 D	
FUEL PARAMETER (% ash or % sulfur) = FP		NA %	%
PM 2.5 CONTROL DEVICE CODE ³		016	
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %	%
PM 2.5 EMISSIONS ⁵		0.033 tons per yr	tons per day
NH3 EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
NH3 CONTROL DEVICE CODE ³			
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE		%	%
NH3 EMISSIONS ⁵		tons per yr	tons per day

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e., EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)

REGISTRATION #: 71920 REL. POINT NO.: 1 UNIT NO.: 1 PROCESS NO.: 1 SCC NO.: 10200601

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL	PEAK OZONE SEASON (JUNE, JULY, AUGUST)
THRUPUT (with units) Natural Gas U1		23.196 Million Cubic Feet	
NO. OPERATING DAYS		88 days	days
NO. OPERATING HOURS PER DAY		NA hours	hours
DAILY THRUPUT (with units) = Thruput per day		NA	daily
HAP EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP (7647010) EMISSIONS ⁵		tons TNMOC per yr	tons TNMOC per day
HAP EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP (7664393) EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 1

UNIT NO.: 1

PROCESS NO.: 3

SCC NO.: 10201201

	ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) MSW U1	216049.0 Tons		56207.0 Tons	
NO. OPERATING DAYS	326	days	83	days
NO. OPERATING HOURS PER DAY	7389.85	hours	1895.35	hours
DAILY THRUPUT (with units) = Thruput per day	NA		677.19 Tons per day	
VOC EMISSION FACTOR (with units) = EF	0.427 LB/Hr		0.427 LB/Hr	
Emission Factor source ¹	ST	A	ST	A
Control Efficiency basis ²				
VOC CONTROL DEVICE CODE ³	048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE	EF with Controls %		EF with Controls %	
VOC EMISSIONS ⁵	1.58	tons VOC per yr	9.75	lbs VOC per day
NOx EMISSION FACTOR (with units) = EF	98.9 LB/HR		98.9 LB/HR	
Emission Factor source ¹	ST	A	ST	A
Control Efficiency basis ²				
NOx CONTROL DEVICE CODE ³	032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE	EF with Controls %		EF with Controls %	
NOx EMISSIONS ⁵	365.43	tons NOx per yr	2258.44	lbs NOx per day
SO2 EMISSION FACTOR (with units) = EF	12.6 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
SO2 CONTROL DEVICE CODE ³	041, 068, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE	EF with Controls %			
SO2 EMISSIONS ⁵	46.56	tons SO2 per yr		
PM10 EMISSION FACTOR (with units) = EF	1.43 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
PM10 CONTROL DEVICE CODE ³	016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE	EF with Controls %			
PM10 EMISSIONS ⁵	5.28	tons PM10 per yr		
PB EMISSION FACTOR (with units) = EF	0.00305 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
PB CONTROL DEVICE CODE ³	041, 068, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE	EF with Controls %			
PB EMISSIONS ⁵	0.011	tons PB per yr		

1. AP-42: GEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 1

UNIT NO.: 1

PROCESS NO.: 3

SCC NO.: 10201201

		ANNUAL	PEAK OZONE SEASON (JUNE, JULY, AUGUST)
THRUPUT (with units) MSW U1		216049.0 Tons	
NO. OPERATING DAYS		326 days	
NO. OPERATING HOURS PER DAY		7389.85 hours	
DAILY THRUPUT (with units) = Thruput per day		NA	
TRS Emission Factor (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TRS CONTROL DEVICE CODE ³			
Avg. TRS CONTROL EFFICIENCY ⁴ = CE		%	%
TRS EMISSIONS ⁵		tons TRS per yr	tons TRS per yr
TNMOC EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TNMOC CONTROL DEVICE CODE ³			
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE		%	%
TNMOC EMISSIONS ⁵		tons TNMOC per yr	tons TNMOC per yr
CO EMISSION FACTOR (with units) = EF		1.5 LB/HR	
Emission Factor source ¹	Control Efficiency basis ²	ST A	
CO CONTROL DEVICE CODE ³		033	
Avg. CO CONTROL EFFICIENCY ⁴ = CE		EF with Controls %	%
CO EMISSIONS ⁵		5.54 tons per yr	tons per yr
PM 2.5 EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
FUEL PARAMETER (% ash or % sulfur) = FP		%	%
PM 2.5 CONTROL DEVICE CODE ³			
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE		%	%
PM 2.5 EMISSIONS ⁵		tons per yr	tons per yr
NH3 EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
NH3 CONTROL DEVICE CODE ³			
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE		%	%
NH3 EMISSIONS ⁵		tons per yr	tons per yr

1. AP-42; CEMS: ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note: control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

**2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)**

REGISTRATION #: 71920 REL. POINT NO.: 1 UNIT NO.: 1 PROCESS NO.: 3 SCC NO.: 10201201

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) U1 MSW		216049.0 Tons			
NO. OPERATING DAYS		326 days			
NO. OPERATING HOURS PER DAY		7389.85 hours			
DAILY THRUPUT (with units) = Thruput per day		NA			
HAP EMISSION FACTOR (with units) = EF		3.67 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
HAP CONTROL DEVICE CODE ³		041, 068, 202			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
HAP (7647010) EMISSIONS ⁵		13.56 tons TNMOC per yr			
HAP EMISSION FACTOR (with units) = EF		<0.0425 Lb/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
HAP CONTROL DEVICE CODE ³		041, 068, 202			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
HAP (7664393) EMISSIONS ⁵		<0.157 tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100 ; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 2

UNIT NO.: 2

PROCESS NO.: 1

SCC NO.: 10200601

		ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) Natural Gas U2		21.766 Million Cubic Feet		6.895 Million Cubic Feet	
NO. OPERATING DAYS		58 days		14 days	
NO. OPERATING HOURS PER DAY		NA hours		NA hours	
DAILY THRUPUT (with units) = Thruput per day		NA		0.493 Million Cubic Feet per day	
VOC EMISSION FACTOR (with units) = EF		5.5 LB/MMSCF		5.5 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D	AP-42	D
VOC CONTROL DEVICE CODE ³		048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %		Estimated 50 %	
VOC EMISSIONS ⁵		0.030 tons VOC per yr		1.355 lbs VOC per day	
NOx EMISSION FACTOR (with units) = EF		140 LB/MMSCF		140 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D	AP-42	D
NOx CONTROL DEVICE CODE ³		032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %		Estimated 50 %	
NOx EMISSIONS ⁵		0.762 tons NOx per yr		34.51 lbs NOx per day	
SO2 EMISSION FACTOR (with units) = EF		0.6 LB/MMSCF			
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D		
FUEL PARAMETER (% ash or % sulfur) = FP		NA %			
SO2 CONTROL DEVICE CODE ³		041, 68, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE		94.7* %			
SO2 EMISSIONS ⁵		3.5E-04 tons SO2 per yr		0.00015 tons SO2 per day	
PM10 EMISSION FACTOR (with units) = EF		7.6 LB/MMSCF			
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D		
FUEL PARAMETER (% ash or % sulfur) = FP		NA %			
PM10 CONTROL DEVICE CODE ³		016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %			
PM10 EMISSIONS ⁵		0.041 tons PM10 per yr		0.0017 tons PM10 per day	
PB EMISSION FACTOR (with units) = EF		5.0E-04 LB/MMSCF			
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D		
PB CONTROL DEVICE CODE ³		041, 68, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %			
PB EMISSIONS ⁵		2.7E-06 tons PB per yr		0.00011 tons PB per day	

* Annual Stack Test Removal Efficiency.

Emission Factor: LB/MMSCF (10E-06 SCF).

1. AP-42: CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 2

UNIT NO.: 2

PROCESS NO.: 2

SOC NO.: 10200601

		ANNUAL	PEAK OZONE SEASON (LINE JULY-AUGUST)
THRUPUT (with units) Natural Gas U2		21.766 Million Cubic Feet	
NO. OPERATING DAYS		58 days	
NO. OPERATING HOURS PER DAY		NA hours	
DAILY THRUPUT (with units) = Thruput per day		NA	
TRS Emission Factor (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TRS CONTROL DEVICE CODE ³			
Avg. TRS CONTROL EFFICIENCY ⁴ = CE		%	%
TRS EMISSIONS ⁵		tons TRS per yr	tons TRS per yr
TNMOC EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TNMOC CONTROL DEVICE CODE ³			
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE		%	%
TNMOC EMISSIONS ⁵		tons TNMOC per yr	tons TNMOC per yr
CO EMISSION FACTOR (with units) = EF		84.0 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42 D	
CO CONTROL DEVICE CODE ³		033	
Avg. CO CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %	%
CO EMISSIONS ⁵		0.457 tons per yr	tons per yr
PM 2.5 EMISSION FACTOR (with units) = EF		5.7 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42 D	
FUEL PARAMETER (% ash or % sulfur) = FP		NA %	%
PM 2.5 CONTROL DEVICE CODE ³		016	
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE		Estimated 50 %	%
PM 2.5 EMISSIONS ⁵		0.031 tons per yr	tons per yr
NH3 EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
NH3 CONTROL DEVICE CODE ³			
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE		%	%
NH3 EMISSIONS ⁵		tons per yr	tons per yr

1. AP-42: CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

**2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)**

REGISTRATION #: 71920 REL. POINT NO.: 2 UNIT NO.: 2 PROCESS NO.: 1 SCC NO.: 10200601

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL		PEAK OZONE SEASON JUNE, JULY, AUGUST	
THRUPUT (with units) Natural Gas U2		21.766 Million Cubic Feet			
NO. OPERATING DAYS		58	days		days
NO. OPERATING HOURS PER DAY		NA	hours		hours
DAILY THRUPUT (with units) = Thruput per day		NA			per day
HAP EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP (7647010) EMISSIONS ⁵		tons TNMOC per yr		tons TNMOC per day	
HAP EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP (7664393) EMISSIONS ⁵		tons per yr		tons per day	
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵		tons per yr		tons per day	
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵		tons per yr		tons per day	
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵		tons per yr		tons per day	
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵		tons per yr		tons per day	
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵		tons per yr		tons per day	

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 2

UNIT NO.: 2

PROCESS NO.: 3

SCC NO.: 10201201

	ANNUAL		PEAK/ZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) MSW U2	237460.0 Tons		60164.0 Tons	
NO. OPERATING DAYS	339	days	91	days
NO. OPERATING HOURS PER DAY	7983.75	hours	2159.0	hours
DAILY THRUPUT (with units) = Thruput per day	NA		661.14 Tons	per day
VOC EMISSION FACTOR (with units) = EF	0.293 LB/HR		0.293 LB/HR	
Emission Factor source ¹	ST	A	ST	A
Control Efficiency basis ²				
VOC CONTROL DEVICE CODE ³	048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE	EF with Controls %		EF with Controls %	
VOC EMISSIONS ⁵	1.17	tons VOC per yr	6.95	lbs VOC per day
NOx EMISSION FACTOR (with units) = EF	109.0 LB/HR		109.0 LB/HR	
Emission Factor source ¹	ST	A	ST	A
Control Efficiency basis ²				
NOx CONTROL DEVICE CODE ³	032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE	EF with Controls %		EF with Controls %	
NOx EMISSIONS ⁵	435.11	tons NOx per yr	2586.05	lbs NOx per day
SO2 EMISSION FACTOR (with units) = EF	4.0 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
SO2 CONTROL DEVICE CODE ³	041, 068, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE	EF with Controls %			
SO2 EMISSIONS ⁵	15.97	tons SO2 per yr		
PM10 EMISSION FACTOR (with units) = EF	0.731 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
PM10 CONTROL DEVICE CODE ³	016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE	EF with Controls %			
PM10 EMISSIONS ⁵	2.92	tons PM10 per yr		
PB EMISSION FACTOR (with units) = EF	0.0032 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
PB CONTROL DEVICE CODE ³	041, 068, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE	EF with Controls %			
PB EMISSIONS ⁵	0.013	tons PB per yr		

1. AP-42: CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 2

UNIT NO.: 2

PROCESS NO.: 3

SCC NO.: 10201201

		ANNUAL		PEAK OZONE SPASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) MSW U2		237460.0 Tons			
NO. OPERATING DAYS		339 days			
NO. OPERATING HOURS PER DAY		7983.75 hours			
DAILY THRUPUT (with units) = Thruput per day		NA			
TRS Emission Factor (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
TRS CONTROL DEVICE CODE ³					
Avg. TRS CONTROL EFFICIENCY ⁴ = CE					
TRS EMISSIONS ⁵		tons TRS per yr			
TNMOC EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
TNMOC CONTROL DEVICE CODE ³					
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE					
TNMOC EMISSIONS ⁵		tons TNMOC per yr			
CO EMISSION FACTOR (with units) = EF		0.1 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
CO CONTROL DEVICE CODE ³		033			
Avg. CO CONTROL EFFICIENCY ⁴ = CE		EF with Controls			
CO EMISSIONS ⁵		0.399 tons per yr			
PM 2.5 EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP					
PM 2.5 CONTROL DEVICE CODE ³					
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE					
PM 2.5 EMISSIONS ⁵		tons per yr			
NH3 EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
NH3 CONTROL DEVICE CODE ³					
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE					
NH3 EMISSIONS ⁵		tons per yr			

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)

REGISTRATION #: 71920 REL. POINT NO.: 2 UNIT NO.: 2 PROCESS NO.: 3 SCC NO.: 10201201

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) MSW U2		237460.0 Tons			
NO. OPERATING DAYS		339 days			
NO. OPERATING HOURS PER DAY		7983.75 hours			
DAILY THRUPUT (with units) = Thruput per day		NA			
HAP EMISSION FACTOR (with units) = EF		3.40 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
HAP CONTROL DEVICE CODE ³		041, 068, 202			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
HAP (7647010) EMISSIONS ⁵		13.57 tons TNMOC per yr		13.57 tons TNMOC per day	
HAP EMISSION FACTOR (with units) = EF		<0.0423 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
HAP CONTROL DEVICE CODE ³		041, 068, 202			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
HAP (7664393) EMISSIONS ⁵		<0.169 tons per yr		<0.169 tons per day	
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵					
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵					
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵					
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵					
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE					
HAP () EMISSIONS ⁵					

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 3

UNIT NO.: 3

PROCESS NO.: 1

SCC NO.: 10200601

	ANNUAL		PEAK OZONE SEASON (JUNE-JULY-AUGUST)	
THRUPUT (with units) Natural Gas U3	22.823 Million Cubic Feet		6.504 Million Cubic Feet	
NO. OPERATING DAYS	76	days	12	days
NO. OPERATING HOURS PER DAY	NA	hours	NA	hours
DAILY THRUPUT (with units) = Thruput per day	NA		0.542 Million Cubic Feet per day	
VOC EMISSION FACTOR (with units) = EF	5.5 LB/MMSCF		5.5 LB/MMSCF	
Emission Factor source ¹	AP-42	D	AP-42	D
Control Efficiency basis ²				
VOC CONTROL DEVICE CODE ³	048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %		Estimated 50 %	
VOC EMISSIONS ⁵	0.031 tons VOC per yr		1.491 lbs VOC per day	
NOx EMISSION FACTOR (with units) = EF	140 LB/MMSCF		140 LB/MMSCF	
Emission Factor source ¹	AP-42	D	AP-42	D
Control Efficiency basis ²				
NOx CONTROL DEVICE CODE ³	032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %		Estimated 50 %	
NOx EMISSIONS ⁵	0.799 tons NOx per yr		37.94 lbs NOx per day	
SO2 EMISSION FACTOR (with units) = EF	0.6 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
SO2 CONTROL DEVICE CODE ³	041, 68, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE	80.7* %			
SO2 EMISSIONS ⁵	1.3E-03 tons SO2 per yr			
PM10 EMISSION FACTOR (with units) = EF	7.6 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
PM10 CONTROL DEVICE CODE ³	016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %			
PM10 EMISSIONS ⁵	0.043 tons PM10 per yr			
PB EMISSION FACTOR (with units) = EF	5.0E-04 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
PB CONTROL DEVICE CODE ³	041, 68, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %			
PB EMISSIONS ⁵	5.7E-06 tons PB per yr			

*Annual Stack Test Removal Efficiency.

Emission Factor: LB/MMSCF (10E-06 SCF).

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 3

UNIT NO.: 3

PROCESS NO.: 1

SCG NO.: 10200601

		ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) Natural Gas U3		21.766 Million Cubic Feet			
NO. OPERATING DAYS		58	days		
NO. OPERATING HOURS PER DAY		NA	hours		
DAILY THRUPUT (with units) = Thruput per day		NA			
TRS Emission Factor (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
TRS CONTROL DEVICE CODE ³					
Avg. TRS CONTROL EFFICIENCY ⁴ = CE			%		
TRS EMISSIONS ⁵			tons TRS per yr		
TNMOC EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
TNMOC CONTROL DEVICE CODE ³					
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE			%		
TNMOC EMISSIONS ⁵			tons TNMOC per yr		
CO EMISSION FACTOR (with units) = EF		84.0 LB/MMSCF			
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D		
CO CONTROL DEVICE CODE ³		033			
Avg. CO CONTROL EFFICIENCY ⁴ = CE		Estimated 50	%		
CO EMISSIONS ⁵		0.457	tons per yr		
PM 2.5 EMISSION FACTOR (with units) = EF		5.7 LB/MMSCF			
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D		
FUEL PARAMETER (% ash or % sulfur) = FP		NA	%		
PM 2.5 CONTROL DEVICE CODE ³		016			
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE		Estimated 50	%		
PM 2.5 EMISSIONS ⁵		0.062	tons per yr		
NH3 EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
NH3 CONTROL DEVICE CODE ³					
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE			%		
NH3 EMISSIONS ⁵			tons per yr		

1. AP-42: CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD (HAPs)**

REGISTRATION #: 71920 REL. POINT NO.: 3 UNIT NO.: 3 PROCESS NO.: 1 SCG NO.: 10200601

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL	PEAK OZONE SEASON JUNE, JULY, AUGUST
THRUPUT (with units)		21.766 Million Cubic Feet	
NO. OPERATING DAYS		58 days	
NO. OPERATING HOURS PER DAY		NA hours	
DAILY THRUPUT (with units) = Thruput per day		NA	
HAP EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP (7647010) EMISSIONS ⁵		tons TNMOC per yr	tons TNMOC per day
HAP EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP (7664393) EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per day

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100 ; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 3

UNIT NO.: 3

PROCESS NO.: 3

SCC NO.: 10201201

		ANNUAL		PEAK OZONE SEASON (JUNE-JULY-AUGUST)	
THRUPUT (with units) MSW U3		245283.0 Tons		64051.0 Tons	
NO. OPERATING DAYS		340 days		87 days	
NO. OPERATING HOURS PER DAY		7959.95 hours		2039.0 hours	
DAILY THRUPUT (with units) = Thruput per day		NA		736.22 Tons per day	
VOC EMISSION FACTOR (with units) = EF		0.387 LB/HR		0.387 LB/HR	
Emission Factor source ¹	Control Efficiency basis ²	ST	A	ST	A
VOC CONTROL DEVICE CODE ³		048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE		EF with Controls %		EF with Controls %	
VOC EMISSIONS ⁵		1.54 tons VOC per yr		9.07 lbs VOC per day	
NOx EMISSION FACTOR (with units) = EF		106.0 LB/HR		106.0 LB/HR	
Emission Factor source ¹	Control Efficiency basis ²	ST	A	ST	A
NOx CONTROL DEVICE CODE ³		032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE		EF with Controls %		EF with Controls %	
NOx EMISSIONS ⁵		421.88 tons NOx per yr		2484.30 lbs NOx per day	
SO2 EMISSION FACTOR (with units) = EF		12.1 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
FUEL PARAMETER (% ash or % sulfur) = FP		NA %			
SO2 CONTROL DEVICE CODE ³		041, 068, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
SO2 EMISSIONS ⁵		48.16 tons SO2 per yr			
PM10 EMISSION FACTOR (with units) = EF		0.512 LB/Hr			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
FUEL PARAMETER (% ash or % sulfur) = FP		NA %			
PM10 CONTROL DEVICE CODE ³		016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
PM10 EMISSIONS ⁵		2.04 tons PM10 per yr			
PB EMISSION FACTOR (with units) = EF		0.0023 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
PB CONTROL DEVICE CODE ³		041, 068, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
PB EMISSIONS ⁵		0.009 tons PB per yr			

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 3

UNIT NO.: 3

PROCESS NO.: 3

SCC NO.: 10201201

		ANNUAL		PM 2.5 OZONE RESPONSE (LINE, JULY, AUGUST)	
THRUPUT (with units) MSW U3		245283.0 Tons			
NO. OPERATING DAYS		340 days			
NO. OPERATING HOURS PER DAY		7959.95 hours			
DAILY THRUPUT (with units) = Thruput per day		NA			
TRS Emission Factor (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
TRS CONTROL DEVICE CODE ³					
Avg. TRS CONTROL EFFICIENCY ⁴ = CE					
TRS EMISSIONS ⁵		tons TRS per yr			
TNMOC EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
TNMOC CONTROL DEVICE CODE ³					
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE					
TNMOC EMISSIONS ⁵		tons TNMOC per yr			
CO EMISSION FACTOR (with units) = EF		2.4 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
CO CONTROL DEVICE CODE ³		033			
Avg. CO CONTROL EFFICIENCY ⁴ = CE		EF with Controls			
CO EMISSIONS ⁵		9.55 tons per yr			
PM 2.5 EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP					
PM 2.5 CONTROL DEVICE CODE ³					
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE					
PM 2.5 EMISSIONS ⁵		tons per yr			
NH3 EMISSION FACTOR (with units) = EF		NA			
Emission Factor source ¹	Control Efficiency basis ²				
NH3 CONTROL DEVICE CODE ³					
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE					
NH3 EMISSIONS ⁵		tons per yr			

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)

REGISTRATION #: 71920 REL. POINT NO.: 3 UNIT NO.: 3 PROCESS NO.: 3 SCC NO.: 10201201

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) MSW U3		245283.0 Tons			
NO. OPERATING DAYS		340 days			
NO. OPERATING HOURS PER DAY		7959.95 hours			
DAILY THRUPUT (with units) = Thruput per day		NA			
HAP EMISSION FACTOR (with units) = EF		3.07 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
HAP CONTROL DEVICE CODE ³		041, 068, 202			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
HAP () EMISSIONS ⁵		12.22 tons TNMOC per yr			
HAP EMISSION FACTOR (with units) = EF		<0.0418 LB/HR			
Emission Factor source ¹	Control Efficiency basis ²	ST	A		
HAP CONTROL DEVICE CODE ³		041, 068, 202			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %			
HAP () EMISSIONS ⁵		<0.166 tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			
HAP EMISSION FACTOR (with units) = EF					
Emission Factor source ¹	Control Efficiency basis ²				
HAP CONTROL DEVICE CODE ³					
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%			
HAP () EMISSIONS ⁵		tons per yr			

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 4 UNIT NO.: 4

PROCESS NO.: 1 SCC NO.: 10200601

	ANNUAL		PEAK OZONE SEASON (JUNE-JULY-AUGUST)	
THRUPUT (with units) Natural Gas U4	20.041 Million Cubic Feet		6.392 Million Cubic Feet	
NO. OPERATING DAYS	328 days		31 days	
NO. OPERATING HOURS PER DAY	NA hours		NA hours	
DAILY THRUPUT (with units) = Thruput per day	NA		0.206 Million Cubic Feet per day	
VOC EMISSION FACTOR (with units) = EF	5.5 LB/MMSCF		5.5 LB/MMSCF	
Emission Factor source ¹	AP-42	D	AP-42	D
Control Efficiency basis ²				
VOC CONTROL DEVICE CODE ³	048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %		Estimated 50 %	
VOC EMISSIONS ⁵	0.028 tons VOC per yr		0.567 lbs VOC per day	
NOx EMISSION FACTOR (with units) = EF	140 LB/MMSCF		140 LB/MMSCF	
Emission Factor source ¹	AP-42	D	AP-42	D
Control Efficiency basis ²				
NOx CONTROL DEVICE CODE ³	032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %		Estimated 50 %	
NOx EMISSIONS ⁵	0.701 tons NOx per yr		14.42 lbs NOx per day	
SO2 EMISSION FACTOR (with units) = EF	0.6 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
SO2 CONTROL DEVICE CODE ³	041, 68, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE	86.1* %			
SO2 EMISSIONS ⁵	8.4E-04 tons SO2 per yr			
PM10 EMISSION FACTOR (with units) = EF	7.6 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA %			
PM10 CONTROL DEVICE CODE ³	016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %			
PM10 EMISSIONS ⁵	0.038 tons PM10 per yr			
PB EMISSION FACTOR (with units) = EF	5.0E-04 LB/MMSCF			
Emission Factor source ¹	AP-42	D		
Control Efficiency basis ²				
PB CONTROL DEVICE CODE ³	041, 68, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE	Estimated 50 %			
PB EMISSIONS ⁵	2.5E-06 tons PB per yr			

*Annual Stack Test Removal Efficiency.

Emission Factor: LB/MMSCF (10E-06SCF).

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100 ; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 4

UNIT NO.: 4

PROCESS NO.: 1

SCC NO.: 10200601

		ANNUAL	PEAK OZONE SEASON (LINE JULY - AUGUST)
THRUPUT (with units) Natural Gas U4		20.041 Million Cubic Feet	
NO. OPERATING DAYS		328	days
NO. OPERATING HOURS PER DAY		NA	hours
DAILY THRUPUT (with units) = Thruput per day		NA	
TRS Emission Factor (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TRS CONTROL DEVICE CODE ³			
Avg. TRS CONTROL EFFICIENCY ⁴ = CE			%
TRS EMISSIONS ⁵		tons TRS per yr	
TNMOC EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
TNMOC CONTROL DEVICE CODE ³			
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE			%
TNMOC EMISSIONS ⁵		tons TNMOC per yr	
CO EMISSION FACTOR (with units) = EF		84.0 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D
CO CONTROL DEVICE CODE ³		033	
Avg. CO CONTROL EFFICIENCY ⁴ = CE		Estimated 50	%
CO EMISSIONS ⁵		0.421	tons per yr
PM 2.5 EMISSION FACTOR (with units) = EF		5.7 LB/MMSCF	
Emission Factor source ¹	Control Efficiency basis ²	AP-42	D
FUEL PARAMETER (% ash or % sulfur) = FP		NA	%
PM 2.5 CONTROL DEVICE CODE ³		016	
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE		Estimated 50	%
PM 2.5 EMISSIONS ⁵		0.029	tons per yr
NH3 EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
NH3 CONTROL DEVICE CODE ³			
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE			%
NH3 EMISSIONS ⁵			tons per yr

1. AP-42: CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval).
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet).
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

**2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)**

REGISTRATION #: 71920 REL. POINT NO.: 4 UNIT NO.: 4 PROCESS NO.: 1 SCC NO.: 10200601

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL	PEAK OZONE SEASON (JUNE, JULY, AUGUST)
THRUPUT (with units) Natural Gas U4		20.041 Million Cubic Feet	
NO. OPERATING DAYS		328 days	days
NO. OPERATING HOURS PER DAY		NA hours	hours
DAILY THRUPUT (with units) = Thruput per day		NA	per day
HAP EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP (7047010) EMISSIONS ⁵		tons TNMOC per yr	tons TNMOC per yr
HAP EMISSION FACTOR (with units) = EF		NA	
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP (7664003) EMISSIONS ⁵		tons per yr	tons per yr
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per yr
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per yr
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per yr
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per yr
HAP EMISSION FACTOR (with units) = EF			
Emission Factor source ¹	Control Efficiency basis ²		
HAP CONTROL DEVICE CODE ³			
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%	%
HAP () EMISSIONS ⁵		tons per yr	tons per yr

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS **OPTION I: EMISSION FACTOR METHOD**

REGISTRATION #: 71920

REL. POINT NO.: 4 UNIT NO.: 4

PROCESS NO.: 3 SCC NO.: 10201201

	ANNUAL		PEAK OZONE SEASON (JUNE, JULY, AUGUST)	
THRUPUT (with units) MSW U4	234236.0 Tons		58611.0 Tons	
NO. OPERATING DAYS	328	days	86	days
NO. OPERATING HOURS PER DAY	7542.55	hours	1990.6	hours
DAILY THRUPUT (with units) = Thruput per day	NA		681.52 Tons	per day
VOC EMISSION FACTOR (with units) = EF	0.438 LB/HR		0.438 LB/HR	
Emission Factor source ¹	ST	A	ST	A
Control Efficiency basis ²				
VOC CONTROL DEVICE CODE ³	048, 207		048, 207	
Avg. VOC CONTROL EFFICIENCY ⁴ = CE	EF with Controls	%	EF with Controls	%
VOC EMISSIONS ⁵	1.65	tons VOC per yr	10.14	lbs VOC per day
NOx EMISSION FACTOR (with units) = EF	112.0 LB/HR		112.0 LB/HR	
Emission Factor source ¹	ST	A	ST	A
Control Efficiency basis ²				
NOx CONTROL DEVICE CODE ³	032, 107		032, 107	
Avg. NOx CONTROL EFFICIENCY ⁴ = CE	EF with Controls	%	EF with Controls	%
NOx EMISSIONS ⁵	422.38	tons NOx per yr	2592.41	lbs NOx per day
SO2 EMISSION FACTOR (with units) = EF	2.9 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA	%		%
SO2 CONTROL DEVICE CODE ³	041, 068, 202			
Avg. SO2 CONTROL EFFICIENCY ⁴ = CE	EF with Controls	%		%
SO2 EMISSIONS ⁵	10.94	tons SO2 per yr		lbs SO2 per day
PM10 EMISSION FACTOR (with units) = EF	0.969 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
FUEL PARAMETER (% ash or % sulfur) = FP	NA	%		%
PM10 CONTROL DEVICE CODE ³	016			
Avg. PM10 CONTROL EFFICIENCY ⁴ = CE	EF with Controls	%		%
PM10 EMISSIONS ⁵	3.65	tons PM10 per yr		lbs PM10 per day
PB EMISSION FACTOR (with units) = EF	0.00144 LB/HR			
Emission Factor source ¹	ST	A		
Control Efficiency basis ²				
PB CONTROL DEVICE CODE ³	041, 068, 202			
Avg. PB CONTROL EFFICIENCY ⁴ = CE	EF with Controls	%		%
PB EMISSIONS ⁵	0.005	tons PB per yr		lbs PB per day

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (continued)

REGISTRATION #: 71920

REL. POINT NO.: 4

UNIT NO.: 4

PROCESS NO.: 3

SCC NO.: 10201201

		ANNUAL		PER OZONE SPAN (LINE NO. 21 IN EUS)
THRUPUT (with units) MSW U4		234236.0 Tons		
NO. OPERATING DAYS		328	days	
NO. OPERATING HOURS PER DAY		7542.55	hours	
DAILY THRUPUT (with units) = Thruput per day		NA		
TRS Emission Factor (with units) = EF		NA		
Emission Factor source ¹	Control Efficiency basis ²			
TRS CONTROL DEVICE CODE ³				
Avg. TRS CONTROL EFFICIENCY ⁴ = CE			%	
TRS EMISSIONS ⁵			tons TRS per yr	
TNMOC EMISSION FACTOR (with units) = EF		NA		
Emission Factor source ¹	Control Efficiency basis ²			
TNMOC CONTROL DEVICE CODE ³				
Avg. TNMOC CONTROL EFFICIENCY ⁴ = CE			%	
TNMOC EMISSIONS ⁵			tons TNMOC per yr	
CO EMISSION FACTOR (with units) = EF		1.0 LB/HR		
Emission Factor source ¹	Control Efficiency basis ²	ST	A	
CO CONTROL DEVICE CODE ³		033		
Avg. CO CONTROL EFFICIENCY ⁴ = CE		EF with Controls		%
CO EMISSIONS ⁵		3.77		tons per yr
PM 2.5 EMISSION FACTOR (with units) = EF		NA		
Emission Factor source ¹	Control Efficiency basis ²			
FUEL PARAMETER (% ash or % sulfur) = FP			%	
PM 2.5 CONTROL DEVICE CODE ³				
Avg. PM 2.5 CONTROL EFFICIENCY ⁴ = CE			%	
PM 2.5 EMISSIONS ⁵			tons per yr	
NH3 EMISSION FACTOR (with units) = EF		NA		
Emission Factor source ¹	Control Efficiency basis ²			
NH3 CONTROL DEVICE CODE ³				
Avg. NH3 CONTROL EFFICIENCY ⁴ = CE			%	
NH3 EMISSIONS ⁵			tons per yr	

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2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

**2015 EMISSION CALCULATIONS
OPTION I: EMISSION FACTOR METHOD (HAPs)**

REGISTRATION #: 71920 REL. POINT NO.: 4 UNIT NO.: 4 PROCESS NO.: 3 SCC NO.: 10201201

Hydrogen
Chloride

Hydrogen
Fluoride

		ANNUAL		PEAK OZONE SEASON JUNE, JULY, AUGUST
THRUPUT (with units) MSW U4		234236.0 Tons		
NO. OPERATING DAYS		328 days		
NO. OPERATING HOURS PER DAY		7542.55 hours		
DAILY THRUPUT (with units) = Thruput per day		NA		
HAP EMISSION FACTOR (with units) = EF		3.58 LB/HR		
Emission Factor source ¹	Control Efficiency basis ²	ST	A	
HAP CONTROL DEVICE CODE ³		041, 068, 202		
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %		
HAP () EMISSIONS ⁵		13.50 tons TNMOC per yr		
HAP EMISSION FACTOR (with units) = EF		<0.0431 LB/HR		
Emission Factor source ¹	Control Efficiency basis ²	ST	A	
HAP CONTROL DEVICE CODE ³		041, 068, 202		
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		EF with Controls %		
HAP () EMISSIONS ⁵		<0.163 tons per yr		
HAP EMISSION FACTOR (with units) = EF				
Emission Factor source ¹	Control Efficiency basis ²			
HAP CONTROL DEVICE CODE ³				
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%		
HAP () EMISSIONS ⁵		tons per yr		
HAP EMISSION FACTOR (with units) = EF				
Emission Factor source ¹	Control Efficiency basis ²			
HAP CONTROL DEVICE CODE ³				
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%		
HAP () EMISSIONS ⁵		tons per yr		
HAP EMISSION FACTOR (with units) = EF				
Emission Factor source ¹	Control Efficiency basis ²			
HAP CONTROL DEVICE CODE ³				
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%		
HAP () EMISSIONS ⁵		tons per yr		
HAP EMISSION FACTOR (with units) = EF				
Emission Factor source ¹	Control Efficiency basis ²			
HAP CONTROL DEVICE CODE ³				
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%		
HAP () EMISSIONS ⁵		tons per yr		
HAP EMISSION FACTOR (with units) = EF				
Emission Factor source ¹	Control Efficiency basis ²			
HAP CONTROL DEVICE CODE ³				
Avg. HAP CONTROL EFFICIENCY ⁴ = CE		%		
HAP () EMISSIONS ⁵		tons per yr		

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material Balance; D = Design; O = Other (describe on separate sheet)
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5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100